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Antecedents of Consumer Purchase Intentions towards Organic Food Produces: A Case Study of the Johannesburg Municipality

Prepared

by

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Johannesburg

South Africa

Date: **4 June 2015**

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DECLARATION

I, Bongani Mhlophe declare that this project is my own work. This research project will be submitted in fulfilment of the requirements for the Masters degree in the field of Marketing at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at this or any other University**.**

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Abstract

Amid the global drive to promote environmentally less threatening food production methods, marketers have been exposed to many opportunities as well as challenges, in their desire to profitably satisfy consumers' ever-changing needs and wants. In South Africa today, the organic food drive is budding, with key hypermarkets stocking an ever increasing collection of such foodstuffs. Of late, interest and consideration towards organically produced foodstuffs and purchasing intentions thereof have been augmenting in importance amongst many consumers, in their response to concerns about the effects of conventional farming practices on human health, environment, and food safety among others. As many consumers are increasingly becoming conscious about the positive benefits of non-conventional foodstuffs, marketers are now forced to devise new strategies that effectively incorporate these highly sought organic produces. For this reason, organic farming has been regarded as the best and most attractive alternative to inorganic farming and has led to the production of 'new' foodstuffs. Consequently, the purpose of this study was to determine the antecedents of consumer purchase intentions for organic food in Johannesburg, South Africa. This study used a survey questionnaire for primary data collection and the gathered data was used to quantitatively test the hypotheses. Through Analysis of Moment Structures (AMOS) statistical software and by means of Structural Equation Modeling (SEM), the significance of the variables of this study was determined from a sample of 305 respondents across Johannesburg. Confirmatory Factor Analysis (CFA) was used to check model fit, reliability and validity of the measurement instruments while Path Modeling checked model fit and was ultimately used for hypothesis testing. The findings revealed that attitude was the key antecedent that provided the highest level of explained variance in consumer purchase intention for organic food while Woolworths was the most popular retail outlet for organic food. The findings of this study are thought to have contributed immensely to both theory and correspondingly informed practice. Likewise, the same results will continue to provide meaningful theoretical along with practical ramifications to concerned stakeholders. Indeed, it is also anticipated that the findings of this study will go a long way in guiding future research endeavours.

Keywords: Antecedents, Purchase Intention, Organic Food, Johannesburg, SEM, Amos

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Key Abbreviations/Acronyms

AMOS	−	Analysis of Moment Structures
AV	−	Availability
AVE	−	Average Variance Extracted
BIG 4	−	Pick 'n Pay, Shoprite/Checkers, Spar, Woolworths
BRICS	−	Brazil, Russia, India, China, South Africa
CA	−	Consumer Attitude
CFA	−	Confirmatory Factor Analysis
CR	−	Composite Reliability
EC	−	Environmental Concern
EPSM	−	Equal Probability Selection Method
FIML	−	Full Information Maximum Likelihood
GLS	−	Generalised Least Squares
GOF	−	Goodness of Fit
GUI	−	Graphical User Interface
HBM	−	Health Belief Model

HC	–	Health Consciousness
KL	–	Knowledge Level
LA	–	Labelling
LGM	–	Latent Growth Modeling
MLE	–	Maximum Likelihood Estimation
PI	–	Purchase Intention
PM	–	Path Modeling
PR	–	Perceived Price
SEM	–	Structural Equation Modeling
SN	–	Subjective Norm
STP	–	Segmentation, Targeting and Positioning
TOMA	–	Top of Mind Awareness
TPB	–	Theory of Planned Behaviour
WOM	–	Word of Mouth

ASSUMPTIONS AND EQUATIONS

Assumptions of this Study

- The respondents of the chosen sample willingly shared their purchase intentions for organic food
- The respondents provided **honest** and/or truthful responses
- The chosen sample size was large enough to produce meaningful and accurate results
- The sample will reflect the South African consumers' purchase inentions (i.e. the entire population) and results will be generalised across the organic food market across the country

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Any omission in this transitory acknowledgement does not imply a lack of gratitude.

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DEDICATION

I dedicate this great piece of work to my late uncle – Thabani Brian and my late young sister – Mbalentle. I will always love you and your spirits will always linger on me.

This thesis was inspired by the following verse:

1 Timothy 4 v 7 – "I have fought a good fight; I have finished my course…."

CHAPTER I

OVERVIEW OF THE STUDY

"Switching to all organic food production is the single most critical (and most doable) action we can take right now to stop our climate crisis." — Maria Rodale

1.0. Introduction

With the rise in the organic food industry and increasing consumer intentions to buy such produces, research attention and interest has also continued to 'gain ground' in many other parts of the world (Willer & Yussefi, 2004). Since the 1990s, studies on the determinants of organic food purchase intentions have gained momentum, yet, to date, a number of issues still remain unresolved, despite this considerable research attention. Of late, it has been observed that the tremendous growth and consumer interest in organic food is ascribed to the rising dissatisfaction and concerns over the safety of conventional produces (Anderson, 2000; Williams & Hammitt, 2001). Consumers are constantly questioning the contemporary food system's ability to deliver safe food (Anderson, 2000), and fairly high risks are linked with the intake of conventionally grown food (Padel & Foster, 2005; Williams, Pennington, Bridges & Bridges, 2000; Williams & Hammitt, 2001). Arguably, this increasing trend, as noted by Thompson (1998), is stimulated by consumers' interest in 'safer' alternatives, and notably, organically produced foodstuffs (Birchard, 2001; Hansen, Alroe, Kristensen & Wier, 2002; Kirk, Soffe & Hall, 2002). As a result, there has been a prevalent belief that organic food is substantially safer and healthier than conventional food, and a number of consumers are eager to pay large price premiums to have it at their disposal (Gil, Gracia & Sanchez, 2000, Piyasiri & Ariyawardana, 2002; Pomsanam, Napompech & Suwanmaeneepong, 2014; Ragavan & Mageh, 2013; Lodorfos & Dennis, 2008; Smith & Paladino, 2010; Zehnder, Hope, Hill, Hoyle & Blake, 2003). Evidence of pesticide residues from a study by Smith-Spangler, Brandeau, Hunter, Bavinger, Pearson, Eschbach, Sundaram, Liu, Schirmer, Stave, Olkin & Bravata (2012) proved that organics had 7% of residues while conventional food had 38%. In absolute terms, organic produces (i.e.., fruits and vegetables) were found to have a 30% lower threat of pesticide contamination when compared with conventional food.

Despite the alleged benefits for organic food, the higher price premiums for such produces have been identified as a major impediment in facilitating positive consumer buying intentions for organic food as compared to the 'cheaper' alternatives of conventional food (Effendi, Ginting, Lubis & Fachruddin, 2015; Gan, Wee, Ozanne & Kao, 2008). At this point, it is also imperative to recognise that consumers may struggle to find organic produce in some areas (Thalheimer, 2013). Of the available literature, the findings still remain inconclusive regarding the primary predictors of consumer purchase intentions for organic food (Lockie, Lyons, Lawrence & Grice, 2004), and thus making the current study to be more

relevant in this regard. This section will reflect on the context of this study, highlight the importance of this enquiry in view of context and justify why the objectives were of interest to this investigation, given the background and research problem.

Prolific research in the organic food sector has been done over the past few decades and such studies have variously established significant relationships between the predictors of consumer purchase intention and organic food (for example, Lodorfos & Dennis, 2008; Smith & Paladino, 2010; Pomsanam *et al*., 2014). However, a lot of these studies are confined to developed countries. In consequence, a paucity of organic food-related studies exists in less-developed countries like South Africa (Du Toit & Crafford, 2003; Engel, 2008). Accordingly, the antecedents of consumer purchase intentions for organic food have not been not been delved into sufficiently and the rapport between the relevant variables is largely unknown. Unquestionably, this unfortunate gap has made studies in this area to remain scant. The dearth of studies in this area is astounding and accordingly, warrants academic scrutiny or further empirical analysis. Noteworthy, owing to this ostensible significance of addressing the identified gap caused by the less research attention to area under study, this analysis was a worthwhile endeavour to fill this lacuna. This was done through unravelling the identified issues and providing the necessary recommendations to the concerned stakeholders.

With special reference to the findings by Thøgersen, (2010a), organic food has perceived as a more sustainable alternative to conventional food. Additionally, literature identifies health reasons, consumer attitude, and environmental concerns among others, as notable antecedents motivating consumers to consider buying organic food (Klöckner, 2012; Lea & Worsley, 2005; Magnusson, Arvola, Koivisto-Hursti, Aberg & Sjoden, 2003; Olivová, 2011; Padel & Foster, 2005). Inasmuch as some consumers are convinced that organic produce has less agrochemical residues than conventional food, the reliability of this outlook remains questionable owing to the lack of scientific evidence (Thalheimer, 2013). To justify this debate, one can use a recent meta-analysis conducted by Smith-Spangler et al. (2012:10) which concluded that "*the published literature lacks strong evidence that organic foods are significantly more nutritious than conventional foods."* This questioning also applies to the claims about the superiority of organic food when compared with conventionally grown alternatives. On a similar vein, the results from Smith-Spangler et al. (2012:11) *"…identified limited evidence for the superiority of organic foods"* and this evidence did not mention any marked health benefits from eating organic as opposed to conventional foods. Similarly, a

meta-analysis by the British Nutrition Foundation (2007) found no overall differences in the nutrient content of organic versus conventional produces. However, the same evidence from the British Nutrition Foundation (2007) proved that some organic food have higher levels of Vitamin C, for example, dark, leafy greens and potatoes.

Against this backdrop, the current study endeavoured to investigate the antecedents of consumer purchase intentions toward organic food produces. Specifically, this enquiry sought to demarcate the relative significance of every single variable under study. In so doing, a conceptual model was devised and was subjected to empirical analysis and validation through the use of a survey approach to data collection. Importantly, a quantitative methodology was adopted and was consistent with the positivist paradigm. The "Big Four" organic food retail outlets in South Africa (Pick 'n Pay, Shoprite/Checkers, Spar and Woolworths) were used as a sampling frame and only Johannesburg consumers were surveyed. SEM was used to analyse the data and AMOS was the most preferred statistical software. Owing to the fact that only Johannesburg consumers were surveyed, this study may not be representative of the entire population. It is for this reason that caution was taken when interpreting the findings generated from this study. However, it is hoped that prospective researchers will use the conclusions from this study as groundwork for more insightful and in-depth follow-up research efforts.

The next section provides a brief outline of the origins and developments within the organic food sector. Afterward, a short discussion of the problem statement and the research gap was will be provided. Thereafter, the purpose of the study, research questions and the resulting objectives will be discussed, followed by the rationale or justification for this study and well as its significance. Subsequently, a consistency matrix and the overall structure of this study will be displayed in Table 1.2 and Figure 1.4 respectively.

1.1. Background: The Origins and Development of Organic Farming

The evolution of the 'organic movement' into the 'industry' it is currently shows that a number of developments have sprung up, altering the face of the sector. The development of organic agriculture was grounded on a blend of efforts from pioneer scientists, farmers and organic organisations. Scientists became aware of and increasingly interested in organic agriculture around the 1980s, though there were others who were not supportive of the alternative farming system (Kristiansen & Merfield, 2006). At the outset, a number of

scientists, including Sir Albert Howard (the main pioneer), Rudolf Steiner (a notable scientist), Lady Eve Balfour, Hans Rustch and Hans Mueller articulated their ideas and carried out various research activities (Institute of Natural Resources, 2008). Unfortunately, the sudden haste of research was only a comparison of organic and non-organic farming, instead of research intended to underpin organic practices and principles and assist organic food producers and other stakeholders (Lockeretz, 2002). The trends that started in the 1970s were also apparent during the 1980s and continued to flourish throughout the 1990s and also into the new millennium (Kristiansen & Merfield, 2006). As aforesaid, Sir Albert Howard and Dr Rudolf Steiner were the notable scientists and thus will be further considered.

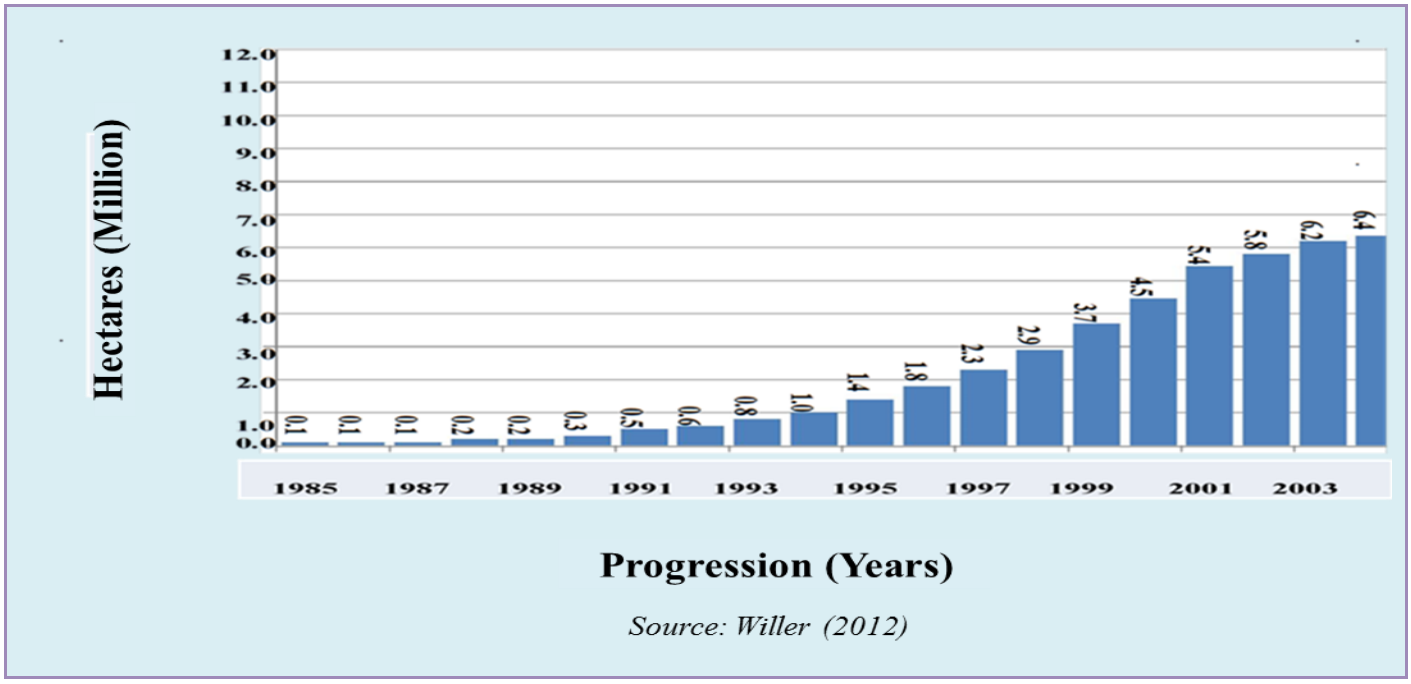
In the early 1900s, Sir Albert Howard piloted multiple and notable experiments at several agricultural research centres in India and found that the fundamental aspect of soil management was the preservation of its fertility. His conceptualisation of 'soil richness' highlighted the link between the health of livestock, crops and human beings (Institute of Natural Resources, 2008). In his book published in 1940 – *An Agricultural Testament*, he claimed that depending on fertilisers was a risky and unwise approach, as it failed to preserve farmland for an indefinite period. In consequence, the agricultural system promoted by Sir Howard was coined 'organic' and functioned to refer to a system 'having a complex but necessary interrelationship of parts, similar to that in living things' (Heckman, 2006).

On a similar vein, the history of organic farming may date back to the 1920s, through the work of individuals like Dr Steiner, the founder of the philosophy of 'Anthroposophy' which integrated bio-dynamics and other elements (Kristiansen & Merfield, 2006; Peart, 2013). Dr Steiner started speaking out after his concerns about the direction food production was heading. Though Dr Steiner's expressed concerns and teachings were the bases of biodynamic farming, which is different from organic food production, primarily because it has astrological and mystical aspects, his criticisms were valid in suggesting that there should be an alternative course to food production (Kristiansen & Merfield, 2006). Moreover, the first organic labelling and certification system, 'Demeter', was created in 1924, owing to Dr Steiner's actions and/or teachings (Rundgren, 2002). Arguably, the work and publications of individuals like Howard, Steiner and McCarrison positively influenced the next wave of organic food pioneers.

The figure below shows that there has been an upward trend in the development of organic agricultural land since the 1980s. Arguably, a continued increase in the agricultural land invariably led to increases in organic produces. Hence, the trends below demonstrate that organic food production has been increasing at a 'desirable' rate across the world.

As discussed above, the following figure shows some important trends from 1985-2003.

Figure 1.1: Development of Organic Agricultural Land 1985-2003

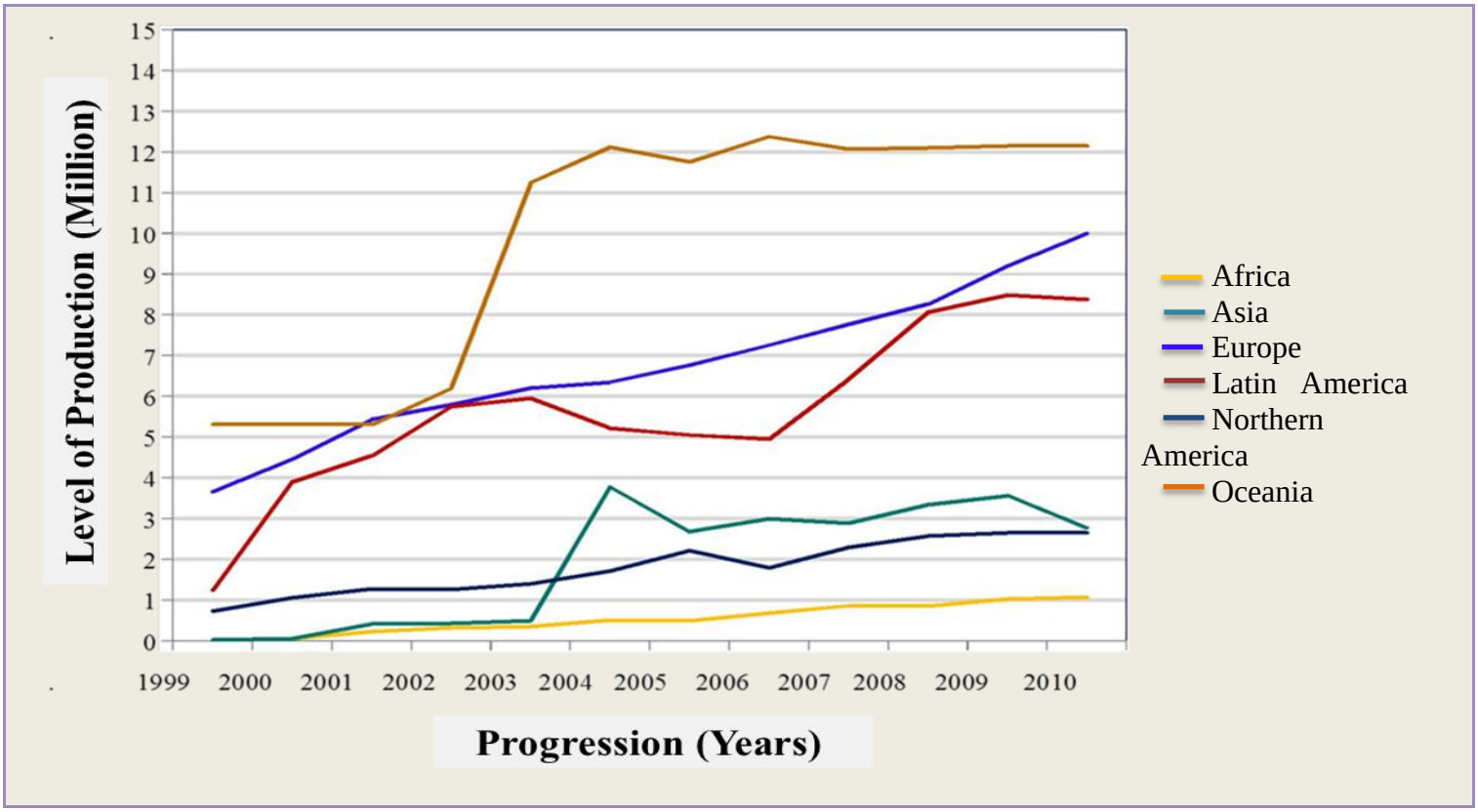


Source: Willer (2012)

By and large, the emergence of organic agriculture came as a result of the desire to produce quality and healthy foods without the use of artificial chemical products (Peart, 2013). Accordingly, the elevation of organic farming constitutes a significant opportunity, not only for organic food producers and marketers to 'thrive', but also provides notable benefits for the environment and society at large. This is due to the fact that although organic food production may be a response to consumers' dynamic needs and wants, it also seeks to fulfill buyers' desire for food production techniques that are less harmful to the environment while simultaneously providing enhanced food quality (Lotter, 2003; Norse & Tschirley, 2003). Traditionally, however, the main driver of organic food production was *two-fold*: to satisfy consumers' diverse needs while at the same time increasing shareholder value due to higher levels of productivity and from premium pricing. Currently, this organic food production drive has drastically changed, owing to the rise in consumers' environmental concerns.

The figure below shows that as the years progressed from 1999 to 2010, Africa had the lowest production level of organic food. Asia had almost the same production level of organic food in 1999 but this level grew to surpass that of Northern America. Latin America had the third best production level, while Europe was the second best. Oceania topped the list with approximately 12 million units of organic food in 2010.

Figure 1.2: Level of Organic Production in the Regions 1999-2010



Source: Willer (2012)

Perhaps a tabularized timeline of the notable developments in the organic food sector may provide a good recapitulation of the above. Accordingly, the table below is the summary of the background of the developments in the organic food industry form the 1900s to 2003.

Table 1.1: Timeline of Events Contributing to the Worldwide Development of the Organic Food Industry

Year	Notable Developments
1990s	Sir Albert Howard carried out agricultural experiments in India
1924	Rudolf Steiner's ran the first courses on bio-dynamic farming
1939	Lady Eve Balfour conducted the Haughley experiment – the first long-term scientific comparison of organic and chemical-based farming
1930s/1940s	Formation of the first bio-dynamic associations in Europe ('Demeter') Dr Hans Mueller became active in Switzerland (Organic – biological farming otherwise referred to as 'Bioland' or 'BioSuisse) Sir Albert Howard published for a land mark book – An Agricultural Testament
1943	Lady Eve Balfour published 'The Living Soil'
1946	Lady Eve Balfour founded the Soil Association in the UK
1972	International Federation of Organic Agriculture Movements (IFOAM) founded
1973	Research Institute of Organic Agriculture (FiBL) founded in Switzerland
1975	Foundation Ecology & Agriculture (SOEL) founded in Germany
1980s	The majority of other organic organisations and associations were formed
1990	First BioFach Fair takes place in Germany, now the biggest fair for organic products worldwide
1991	IFOAM European Union Regional Group founded EU 2091/91 – The European organic standard established. EU regulation 2078/92 published in official Journal or the European Union which established area-based support for organic farming in most EU countries
1992	IFOAM Accreditation Program established
1995	First action plan for organic farming launched in Denmark
1999	Global *Codex Alimentarius* standards on organic agriculture published
2000	Agenda 200 implemented which established support measures for organic farming including continuation of area-based payments
2001	January – BSE crisis in Europe which resulted in an attitude shift toward organic farming May – Initial consideration of European Action Plan for organic farming
2003	European consultation on the action plan for organic farming Various research projects related to organic farming were accepted under the first call of the sixth framework program

Adapted from Willer & Yussefi, (2004)

The above table provides a concise summary of the important developments within the organic food sector. After reflecting on the above context that underlies the organic food industry, the next step was to discuss the research problem.

1.2. Problem Statement

While organic food production endeavours to be environmentally sustainable, deliver healthy and safe produces, until now, it has not yet reached its aims and certain issues still need to be addressed. This failure of organic food production to reach its aims and perhaps stimulate positive purchase intentions for such produces can be ascribed to both research and practical-related problems. Accordingly, literature suggests that there are research-based problems and reality also points toward practical problems (Lockie et al., 2004; Klöckner, 2012; Olivová, 2011; Thalheimer, 2013). To indicate the magnitude of the problem, this section is dedicated to clearly evince that a problem exists, provide evidence (through the use of references and/or statistical backing) that supports the existence of the problem, and the likely causes linked to the problem. Therefore, it will justify the significance of investigating the problem in context.

Premised on the research context and foregoing studies, it became apparent that the issue at hand is the lack of scientific underpinning to justify claims about organic food. This shortage of empirical evidence ultimately affects the way consumers shape their purchase intentions for organic food (Engel 2008; Olivová, 2011; Peart, 2013; Pomsanam et al., 2014). Specifically, there has been a lot of controversy around organic food claims and as result so many questions have erupted thus far, resulting in the need for a related study to, possibly, provide meaningful answers. This study similarly submits that consumers' concerns about the safety of food as well as about the environment (due to unsustainable agricultural practices) necessitated a study akin to this one to address them. The next section presents the identified research-based and practical-based problems that were addressed in the current study.

a) **Research-Based Problems** – Empirical evidence from foregoing studies on consumer purchase intentions for organic food demonstrates that significant problems exist and many issues still remain unresolved, despite extensive previous research efforts (Engel, 2008; Lockie et al., 2004; Klöckner, 2012; Olivová, 2011; Padel & Foster, 2005; Thalheimer, 2013; Pomsanam et al., 2014). Nevertheless, only a handful of studies on consumer purchase intentions for organic food have been undertaken in South Africa (Engel, 2008). Expectedly, little is known about South African consumers' views, concerns, knowledge levels and consumer attitude toward organic food and their related purchase intentions. Arguably, there is small, yet growing amount of literature on the topic of consumer purchase intentions for organic food in emerging countries like South Africa (Engel, 2008). Undoubtedly, empirical evidence

can ultimately do much in solving research-related problems and as a result arrange for the necessary information to help consumers when shaping their buying intentions for organic food. The shortage of studies can be explained by the fact that the organic food sector is relatively new as the South African organic food market demonstrates features of the *immature* market (Engel, 2008). The symptoms are low levels of knowledge, low demand levels, low acceptance of premium pricing for organic food and a dearth of studies on the subject at hand. Despite this unfortunate situation, the organic food sector has incredible growth prospects within the local market, and continues to provide evidence of the current structural shifts in the economy that may affect global consumer trends (Du Toit & Crafford, 2003; Engel, 2008). Although vast amounts of studies have investigated the predictors of organic food purchase intents, particularly in developed countries, their conclusions have not reached consensus regarding the primary determinants of consumer purchase intentions for organic food (Lockie et al., 2004; Lodorfos & Dennis, 2008; Smith & Paladino, 2010; Pomsanam et al., 2014). Such inconsistences in research warrants further examination of the previously studied variables in order to validate some findings, while rejecting others that may be deemed inconsistent to results of the current study. In addition, the fact that these studies concentrated only on Western consumers (McEachern & McClean, 2002; Magnusson, Arvola, Hursti, Aberg & Sjoden, 2001; Smith & Paldino, 2010) may necessitate that similar studies ought to be replicated in other parts of the world. To date, no research papers, if not a few, have investigated consumer purchasing intention in South Africa, with particular reference to Johannesburg. Indisputably, this study became a worthwhile endeavour.

Further empirical evidence also evinces that some consumers are satisfied with conventional food, and thus such consumers have not derived any benefits from organic produces (Bonti-Ankomah & Yiridoe, 2006). What aggravates this issue is the fact that the available literature lacks strong evidence to justify claims that organic produces are significantly better than conventional foodstuffs (Smith-Spangler et al. 2012). This threatens the growth of the organic food market (Magnusson et al., 2001) along with the formation of positive purchase intentions for such foodstuffs (Olivová, 2011). Additionally, it has been found that organic produces are charged at a higher price premium and have limited and erratic supply (Jolly, 1991; Roddy et al., 1996; Tregear et al., 1994; Wandel & Bugge, 1997).

These issues have the potential to negatively affect purchase intentions for such produces (Roddy et al., 1996; Tregear et al., 1994). Besides, consumers have very limited access to information (Mondelaers, Verbeke, Buysse & Van Huylenbroeck, 2011). Insufficient knowledge and information on organic food has instigated a worrisome dimension and propelled many consumers to question the contemporary food system's ability to deliver safe food (Anderson, 2000). Moreover, buyers also tend to perceive fairly high risks linked with the intake of conventionally grown food (Padel & Foster, 2005; Williams et al., 2000; Williams & Hammitt, 2001). Worner and Meier-Ploeger (1999) also declared that consumer doubts, rising dissatisfaction and concerns, dearth of promotional campaigns, unclear and/or unsubstantiated claims of the organic status (e.g., organic food can cure cancer) have a tendency to negatively influence purchase intentions. This may indicate that buyers may have their own perception on what is 'organic' irrespective of the formal description.

Although consumer attitudes toward organic food are generally favourable (Olivová, 2011), this positive predisposition does not *always* transform into purchasing behaviour, one of the key barrier for this being the impossibility to identify certified or 'labelled' organic food (Larceneux, Benoit-Moreau & Renaudin, 2012; Prinsloo et al., 2012). While a consumer may think he or she bought organic food, in reality they would not have, owing to the confusion between organic foods and other alternatives as well as the lack of knowledge about the label (Prinsloo, Van der Merwe, Bosman & Erasmus, 2012). A fresh look into organic food labelling confirms that consumers who fail to distinguish organic food from substitute produces may end up buying produces that are positioned as eco-friendly or healthy and at times fake or even counterfeit (Henryks & Pearson, 2010; Robinson, Segal, Paul, Kemp & Segal, 2014). Misleading or false claims on organic labelling make consumers vulnerable to unscrupulous traders and their suppliers (DTI, undated). In South Africa, the fact that the organic food sector is still unregulated presents another problem (Engel, 2008). Consumers are certainly not sure of the validity of claims on labels in retail outlets and may fail to get legal recourse when tricked (DTI, undated). However, the Consumer Protection Act No 68 of 2008 may be an immediate option for consumers to turn to.

b) Practical Problems – The above section established that a research problem defines the study context and exposes what the investigator is trying to answer. On the other hand, practical problems happen in the real world and may bring along some costs for them to be solved, for example, money, time, and sacrifices, among others (Curtis,

2011). They also seek to prove that the researcher found reasons why the subject at hand must be studied (Conrad & Serlin, 2006). Some changes in the real world may be necessary to solve this problem (Curtis, 2011; Fischler, Undated). Therefore, this section seeks to determine whether the identified problem ought to be studied.

In South Africa, organic food production emerged without government support (Engel 2008). No attention was previously paid toward the potential for organic agriculture to enhance local food security. With limited government support or lack of government investment in the sector, the effectiveness of the sector may be negatively affected. Deficiencies in regulatory and marketing arrangements (i.e., the lack of appropriate policies and marketing strategies) tend to similarly frustrate agriculturalists, processors and consumers (Kristiansen et al., 2006). Therefore, the information gained from solving the above research problems may be used to help find solutions to practical problems. The following section determines why this study was done.

1.2.1. Determining of Whether the Problem Should Be Investigated

This section seeks to answer the following practical questions (the list is not exhaustive):

> Can one study the problem? Does one have access to the research location? Does one have the necessary resources, skills and time to carry out the research? Will the study ultimately contribute to practice?

The researcher was capable of practically conducting the current study because permission was acquired, after which, access to the research site was obtained and the research was approved by the Ethics Committee at the University. The researcher had the necessary skills to conduct the research due to prior exposure. The current study sought to replicate a past study by Olivová (2011), but examined different respondents at different locations. Furthermore, the study sought to extend this past research by examining the subject matter more thoroughly. Importantly, the study practically gave voice to individuals that are often silenced, not heard, or rejected in the general public, for example female participants. Ultimately, the current study intended to inform practice, hence the need to conduct it.

1.2.2. Validation for the Identified Problem

Evidence from the foregoing literature has pointed out that problems exist (for example, Engel 2008; Kristiansen, Taji & Reganold, 2006; Olivová, 2011; Peart, 2013; Pomsanam et al., 2014; Wandel and Bugge, 1997; Williams et al., 2000; Williams & Hammitt). Therefore,

based on what previous researchers have found and lack of unanimity in findings, it became justified for the researcher to conduct this study. An understanding of the organic food market and its implications on economic growth, public sector policies and marketing practices as well as in enabling consumers to appropriately shape their purchase intentions may be a vital tool in the restructuring of the South African organic food sector (Pimbert, Thompson, Vorley, Fox, Kanyi & Tacoli, 2001). Providing information that would guide organic food policy may perhaps prevent the extent to which continued economic, commercial and production activities are frequently interfered with, obstructed or even paralysed. Additionally, employing organic agricultural practices and/or policies is projected to offer a number of positive long-term spill-over effects on the eco-systems (e.g., an improvement of soil fertility and biodiversity), economy and the general public (Pimbert et al., 2001; EPOPA, 2006; Kilcher, 2006, Olivová, 2011). Arguably, this study is indispensible as it is hoped that it will help in developing a better understanding of the contemporary organic food purchase intentions of Johannesburg consumers. The next section clearly explicates the lacuna that was identified in the current study.

1.3. Research Gap / Lacuna

Grounded on the research problem discussed above, this section seeks to identify some deficiencies in the extant evidence. It will also highlight what is yet to be known and will expound on the knowledge necessary to improve practice. In essence, it will focus on what is missing in current studies and that which should be known to improve reality.

After a careful analysis, it became evident that there is a dearth of studies on consumer purchase intentions for organic food in South Africa, with particular reference to Johannesburg. Rarely can one find a South African study that predominantly explores consumers' purchase intentions for organic food. This may be the basis for the deficiencies in the extant literature. Missing data in current literature can be explained by the fact that research on organic food is still in its infancy in South Africa and further studies are necessary (Engel, 2008). Du Toit and Crafford (2003) also stated that more studies relating to organic food are necessary to explore this fairly new phenomenon that is 'largely neglected' by local researchers. Thus, the paucity of studies is astounding and consequently deserves empirical investigation. Nonetheless, there has been a surge of academic research on the predictors of consumer purchase intention for organic food, particularly in developed countries. As a result, the extant literature on organic food is awash with empirical studies

from developed countries, but lacks studies done in emerging countries. Additionally, it is ironic and paradoxical to note that within this extant literature, unanimity on the key antecedents for consumer purchase intentions is still lacking (Justin & Jyoti, 2014; Recker & Saleem, 2014; Smith-Spangler et al., 2012). Consequently, although there has been an over-abundance of research endeavours that explored predictors of consumer purchase intention for organic food, some uncertainty still exists in the quest for a comprehensive understanding of the reasons that propel consumers to buy organic food. Understanding the reasons that motivate consumers to buy organic food is pertinent, as this area has attracted far less research attention than expected. New empirical evidence is likely to fill the existing lacuna or gap in literature owing to the dearth of information and in the same way, inform practice.

While it is yet to be known as to which variables are the key antecedents that drive consumer purchase intention for organic food in developing countries, concerned stakeholders are currently using the existing evidence from developed countries, as some of this evidence may be relevant to the South African context. However, the applicability of such studies remains questionable as Chinomona and Pretorius (2011) rightly stated that it is naive and ill-advised for the inhabitants of developing countries to assume a priori that the discoveries from industrialised countries are applicable to their home countries. Broadly, a variety of studies have investigated the consumer behaviour for organic food and/or concentrated on consumer attitude as predictors for consumer behaviour (for example, Dettmann & Dimitri, 2007; Hoppe, Vieira & de Barcellos, 2013; Shepherd, Magnusson & Sjoden, 2005), but they did not get to the heart of what drives consumers to consider purchasing organic food. For these reasons, an empirical study that seeks to validate or refute earlier findings from developed countries is crucial, signaling the requisite for the current study.

This section has identified the existing *holes* in the organic food literature and practice as an important step in justifying the worthwhileness of the current study. It emphasised that the issues at hand have not been delved into sufficiently. When this gap is filled, this study will inform practice by enabling stakeholders to make well-informed decisions, policies, and/or effective marketing strategies while guiding future research endeavours. The key point from the above discussion was to highlight that a ‘legitimate gap’ exists and thus warrants the pursuit of this study. Accordingly, in light of the above-mentioned **void**, this study endeavours to fill and bridge this research or knowledge gap and possibly reveal significant relations between constructs under study through hypothesis testing.

1.4. Purpose of the Study

In light of the above research gap, the purpose of this study is to quantitatively ascertain the key antecedents that motivate Johannesburg consumers to purchase organic food.

1.5. Research Objectives

In attempting to address the identified research problem and fulfill the purpose of the current study, the following objectives were identified:

(a) Theoretical Objectives

When making reference to purpose of the current study and the important variables that this study reviewed literature on, the theoretical objectives were: to review literature on -

- Consumer attitude
- Health consciousness
- Perceived Price
- Perceived availability
- Labelling
- Knowledge levels
- Subjective norm
- Environmental concerns
- Purchase intention

(b) Empirical Objectives

In line with the purpose of this study and with reference to the causal linkages or relationships that this study sought to investigate, the empirical objectives were to:

- establish the extent to which consumer attitude positively impact consumer purchase intention for organic food
- find out whether health consciousness positively affect consumer purchase intention for organic food
- determine whether a negative effect exists between perceived price and consumer purchase intention for organic food
- discover whether perceived availability positively affects consumer purchase intention for organic food
- establish whether labelling positively influence consumer purchase intention for organic food

- ascertain whether knowledge levels positively impact consumer purchase intention for organic food
- find out whether subjective norm positively affect consumer purchase intention for organic food
- determine whether environmental concerns positively influence consumer purchase intention for organic food

1.6. Research Questions

Given the purpose of the current study, the following questions devised and sought answers:

(a) Primary Research Question

What are the key antecedents that influence Johannesburg consumers when shaping their purchase intentions for organic food?

(b) Secondary Research Questions

- Does consumer attitude have a positive effect on consumer purchase intention for organic food?
- Does health consciousness have a positive effect on consumer purchase intention for organic food?
- Does perceived price have a negative effect on consumer purchase intention for organic food?
- Does perceived availability have a positive effect on consumer purchase intention for organic food?
- Does labelling have a positive effect on consumer purchase intention for organic food?
- Do knowledge levels have a positive effect on consumer purchase intention for organic food?
- Does subjective norm have a positive effect on consumer purchase intention for organic food?
- Do environmental concerns have a positive effect on consumer purchase intention for organic food?

1.7. Justification for and Significance of the Study

The rationale for this study was to highlight the need for this enquiry, demonstrate why this study was worth the resources, time and effort and most importantly reveal the likely contributions of this study to the extant body of literature as well as inform practice.

Many concerned stakeholders, for example, marketers, the state, among others, continue to have an increasing interest in figuring out why and how consumers shape their purchase intentions for organic food (Anderson, Wachenheim & Lesch, 2006). The findings of this study will allow for fresh and interesting knowledge on the issue at hand, by underscoring notable aspects about the reasons that drive consumers to purchase organic food. Moreover, the results of this study will go a long way in aiding marketers to devise cutting-edge and effective marketing strategies that are bound to create a competitive advantage and engender positive consumer purchase intentions for organic food. Similarly, they will also be invaluable to policy makers in that they will enable them to create sound and well-informed policy reforms. Also, it is expected that they will act as a guide to prospective researchers. They will also be an asset to consumers through 'wiping out' most of their current concerns, uncertainties and/or ignorances about organic food. Arguably, this study will be an invaluable addition to the South African body of knowledge that relates to organic food.

The two noteworthy aspects that demonstrate the need for the current study are:

- Firstly, the existing literature on consumer intentions to purchase organic food is well-documented in industrialised countries, while emerging countries like South Africa are typified by scarce and erratic information on the same subject (Engel, 2008).
- Secondly, the ever-increasing interest toward organic food, coupled with the inability to generalise existing international findings to local contexts, makes it indispensable for researchers to conduct further studies in this field. This is supported by the notion that organic food literature is still in its *infancy* in South Africa. As the organic food market is in its introductory stage, quite a few individuals are aware of such produces and hence priority should be given to research efforts that seek to broaden knowledge in this field. Despite the paucity of studies and dearth of relevant studies in South Africa, Du Toit and Crafford (2003) and Engel (2008) have thrown useful insights in this area. Even though this study builds on from previous studies, it however differed from such studies by concentrating on South Africa's economic hub – Johannesburg.

Therefore, it presents an interesting account of the current organic market trends in the country by quantitatively weighing consumers' purchase intentions for such foodstuffs. Using a more relevant sample and advanced statistical software like AMOS also enhanced the usefulness of this study.

The above discussion underscored the fact that the benefits of this study outweigh the cost of generating the necessary data, hence the requisite for this research. Indeed, this research was worth researcher's time, resources and effort as it was deemed to be current, significant, feasible and appropriate. This study was projected to ultimately contribute new knowledge to the extant body of literature and expectedly, have relevant practical implications. Therefore, this study was considered worthwhile as the researcher hoped to get meaningful academic and practical contributions and ramifications. Noteworthy, this study is neither complete nor perfect, but many aspects relating to consumer purchase intentions for organic food were explored. The following unit relates the above discussion to the audiences or beneficiaries.

The audience points out to all the interested parties who are affected either positively or negatively by aspects that have to do with organic food. Accordingly, this unit sought to elucidate on how addressing the research problem or bridging the research gap and achieving the purpose of the study would help educationalists, policymakers, researchers, and other interested individuals. In order to determine this, it became important for the researcher to identify the audience. This involved answering the following questions:

Who will benefit from the findings of this study?

OR

Who will be affected by this study?

By and large, the ultimate objective of this research was to deliver significant theoretical and practical contributions in the field of consumer purchase intention for organic food that were to be of benefit to the concerned stakeholders. From the theoretical point of view, it was projected that other researchers were to benefit, particularly those that aspire to conduct related studies. On a similar vein, this study sought to provide a comprehensive understanding of the aspects that determine consumer purchase intention on organic food. Explicitly, the results from this research aimed at offering additional knowledge to the current body of knowledge on consumer purchase intentions for organic food through exploring the study variables (e.g., health consciousness, environmental concern among others) on the basis

of Ajzen (1991)'s TPB. From the practical perspective, this exploration became imperative owing to the fact that it conveyed some meaningful implications to the relevant parties. This study may perhaps benefit policy makers, who would be in a better position to create or revise the organic food and agricultural policies on the basis of the findings of this study – in a way that promotes the organic food market. The information gathered from this study may possibly serve as useful input to the manufacturers, processors and retailers of organic food. Marketing practitioners are also bound to benefit from the results of the current study as they may implement the necessary changes to their marketing strategies, based on recommendations that will be offered later on. For example, this study may help them in creating better promotional strategies for organic produces. Finally, special populations (i.e., consumers) are likely to benefit from the findings as more current empirical evidence would be at their disposal to help them accurately shape their purchase intentions for organic food.

Table 1.2 below provides a summary of the key aspects relevant to the current study. Explicitly, the table below provides a synthesis of the research problems, key studies, research questions, hypotheses, theories, type of data and analysis method among others. A consistency matrix is a powerful tool that researchers use to align sub-problems, references that are used to explore each sub-problem and the hypotheses or research questions that result from the reviewed literature. As seen below, a list of the analysis method used to analyse the data is also provided. It was also viewed as a process model as the researcher carried out each step of research process in the order presented in the consistency matrix. Importantly, as aforementioned, it acted as a synthesis of the main aspects relating to the study and placed the key parts of this study in few pages, making it convenient for the person reading this research report to find all the relevant aspects in one table.

Table 1.2: Consistency Matrix

Addressed Problems:	• Lack of empirical evidence to justify organic food claims – Dearth of studies • Negative consumer attitude – Leading to negative purchase intentions • Controversy, concerns, uncertainties, rising dissatisfaction over 'unsafe' food • Inadequate information and low levels of knowledge – Limited access to information, consumer confusion • Low acceptance levels of premium pricing • Erratic and limited perceived availability or supply of organic food • Impossibility to identify certified or 'labelled' organic food and misleading claims • Consumer vulnerability to unscrupulous traders • Deficiencies in regulatory and marketing arrangements – Lack of proper policies and effective marketing strategies
Main Theory Guiding the Study	• **Ajzen's Theory of Planned Behaviour**

Sub-Problem	**Literature Review** Key Papers Addressing the Problem & Research Qn	**Research Questions**	**Hypotheses** Linking Hypotheses to Research Questions in a Way that Addresses the Sub-Problems	**Theory/ Predicted Associations** Data Sources (Primary vs Secondary)	**Type of Data** Used a Likert-Type Scale for All Variables	**Methodology & Analysis** Specific Analysis Method Used
Negative consumer attitude can negatively affect purchase intentions	Olivová (2011) Fishbein & Ajzen (1975) Chen (2007) Magnusson et al. (2001) Smith & Paladino (2010) Werner & Alvensleben (2011) Pomsanam et al. (2014)	Do consumer attitude have a positive effect on consumer purchase intention for organic food?	There is a positive relationship between consumer attitude and consumer purchase intention for organic food	Primary and secondary data sources	Ordinal	Quantitative Methodology & Positivist Paradigm Statistical Analysis Cause and effect relationship through SEM
Rising concern and dis-satisfaction over the safety of foodstuffs	Olivová (2011) Magnusson et al. (2001) Shepherd et al. (2005); Lockie et al. (2004) Quah, & Tan (2009) Lea & Worsley (2005) Sakthirama et al. (2013)	Does health consciousness have a positive effect on consumer purchase intention for organic food?	There is a significant positive relationship between health consciousness and consumer purchase intention for organic food	Primary and secondary data sources **Theories** • PMT	Ordinal	Quantitative Methodology & Positivist Paradigm Statistical Analysis Cause and effect relationship through SEM

Low acceptance levels of premium pricing	Olivová (2011) Magnusson et al. (2001); Al-Sabbahy et al. (2004); Padel & Foster (2005) Lockie et al. (2002) Shepherd et al. (1996); Byrne et al. (1991) Erickson & Johansson (1985) Lichtenstein et al. (1988)	Does perceived price have a negative effect on consumer purchase intention for organic food?	There is a negative relationship between perceived price and consumer purchase intention for organic food	Primary and secondary data sources	Ordinal	Quantitative Methodology & Positivist Paradigm Statistical Analysis Cause and effect relationship through SEM
Erratic and limited perceived availability or supply of organic food	Olivová (2011) Saunders (1999) Thompson (1998) Magnusson et al. (2001) Brunsø et al., (2002) Gofton (1995) Tarkiainen & Sundqvist (2005)	Does perceived availability have a positive effect on consumer purchase intention for organic food?	There is a positive relationship between perceived availability and consumer purchase intention for organic food	Primary and secondary data sources	Ordinal	Quantitative Methodology & Positivist Paradigm Statistical Analysis Cause and effect relationship through SEM
Impossibility to identify certified or 'labelled' organic food	Olivová (2011) Hack (1995) Trijp et al. (1997) Sylvander (1995) Bellows & Onyango (2008) Baik et al. (2011); Tang et al. (2004) Essoussi & Zahaf (2009) Teisl & Roe (2005); Sirieix & Schaer (2005) Aarset et al. (2004)	Does labelling have a positive effect on consumer purchase intention for organic food?	There is a positive relationship between labelling and consumer purchase intention for organic food	Primary and secondary data sources	Ordinal	Quantitative Methodology & Positivist Paradigm Statistical Analysis Cause and effect relationship through SEM

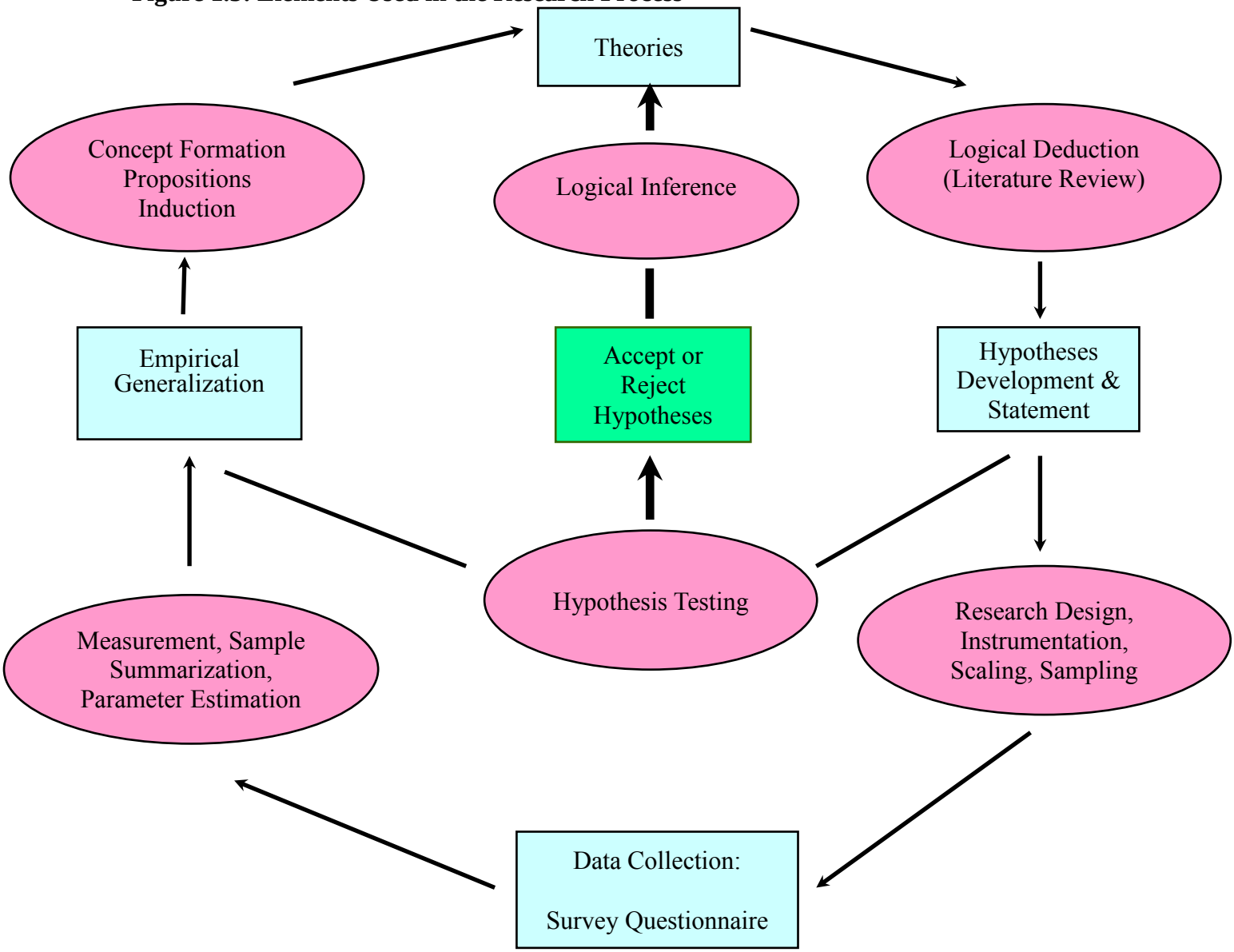
Inadequate information and low levels of knowledge	Olivová (2011) Magnusson et al. (2001); Leire & Thidell (2004) Lodorfos & Dennins (2008); Gracia et al., (2010) Rodriguez at al. (2006); Aertsens et al. (2011)	Do knowledge levels have a positive effect on consumer purchase intention for organic food?	There is a positive relationship between knowledge levels and consumer purchase intention for organic food	Primary and secondary data sources	Ordinal	Quantitative Methodology & Positivist Paradigm Statistical Analysis Cause and effect relationship through SEM
The people that matter to an individual can negatively affect purchase intentions	Olivová (2011) Ajzen (199); Gotschi et al. (2007) Pomsanam et al. (2014); Smith & Paladino (2010); Holst & Iversen (2011) Armitage & Conner (2001)	Does subjective norm have a positive effect on consumer purchase intention for organic food?	There is a positive relationship between subjective norm and consumer purchase intention for organic food	Primary and secondary data sources **Theories** • SCT • SIT	Ordinal	Quantitative Methodology & Positivist Paradigm Statistical Analysis Cause and effect relationship through SEM
A worrisome dimension of the effect of conventional farming on the environment	Olivová (2011) Werner & Alvensleben, 2011; Sarigollu, 2009; Ragavan & Mageh, 2013; Pomsanam et al., 2014); Engel (2008); Millock et al. (2004)	Do environmental concerns have a positive effect on consumer purchase intention for organic food?	There is a positive relationship environmental concerns and consumer purchase intention for organic food	Primary and secondary data sources	Ordinal	Quantitative Methodology & Positivist Paradigm Statistical Analysis Cause and effect relationship
Demographic Information • Gender • Age • Ethnicity • Level of Education • Number of Children • Family Income • Employment Status • Description of OF • General Information • Preferred OF Outlet	**Types of Data** • Gender (Nominal/Categorical, e.g., 0 & 1) • Age (Interval, e.g., 18-25) • Ethnicity (Nominal/Categorical e.g., 1, 2,3) • Level of Study (Ordinal 1,2,3,4) • Number of Children (Ordinal) • Family Income (Interval, - R1100-R2000) • Employment Status (Nominal e.g. 0, 1) • Description of OF (Ordinal, e.g., 1,2,3,4,5) • General Information (Ordinal, e.g., 1,2,3,4) • Preferred OF Outlet (Nominal, e.g., 1,2,3)				**Analysis** Descriptive Statistics using SPSS statistical software	

** SCT= Social Categorisation; SIT= Social Identity Theory; PMT=Protection-Motivation Theory; Qn = Question; OF = Organic Food*

Figure 1.3 below shows some important steps that were followed in the current study. From literature review, this study developed and stated the hypotheses relevant to this study. Thereafter, a discussion of the research methodology was provided, followed by data collection, then data analysis – where hypotheses were accepted or rejected. It is hoped that the results from this study were to be generalised to other similar contexts. However, no new concepts were formed and no new theories resulted from this study. A concise presentation of the research structure (i.e., chapters and their contents), is exhibited in Figure 1.4 below.

The figure below shows some important elements that were used in the research process.

Figure 1.3: Elements Used in the Research Process



Source: Modified from Wallace (1971)

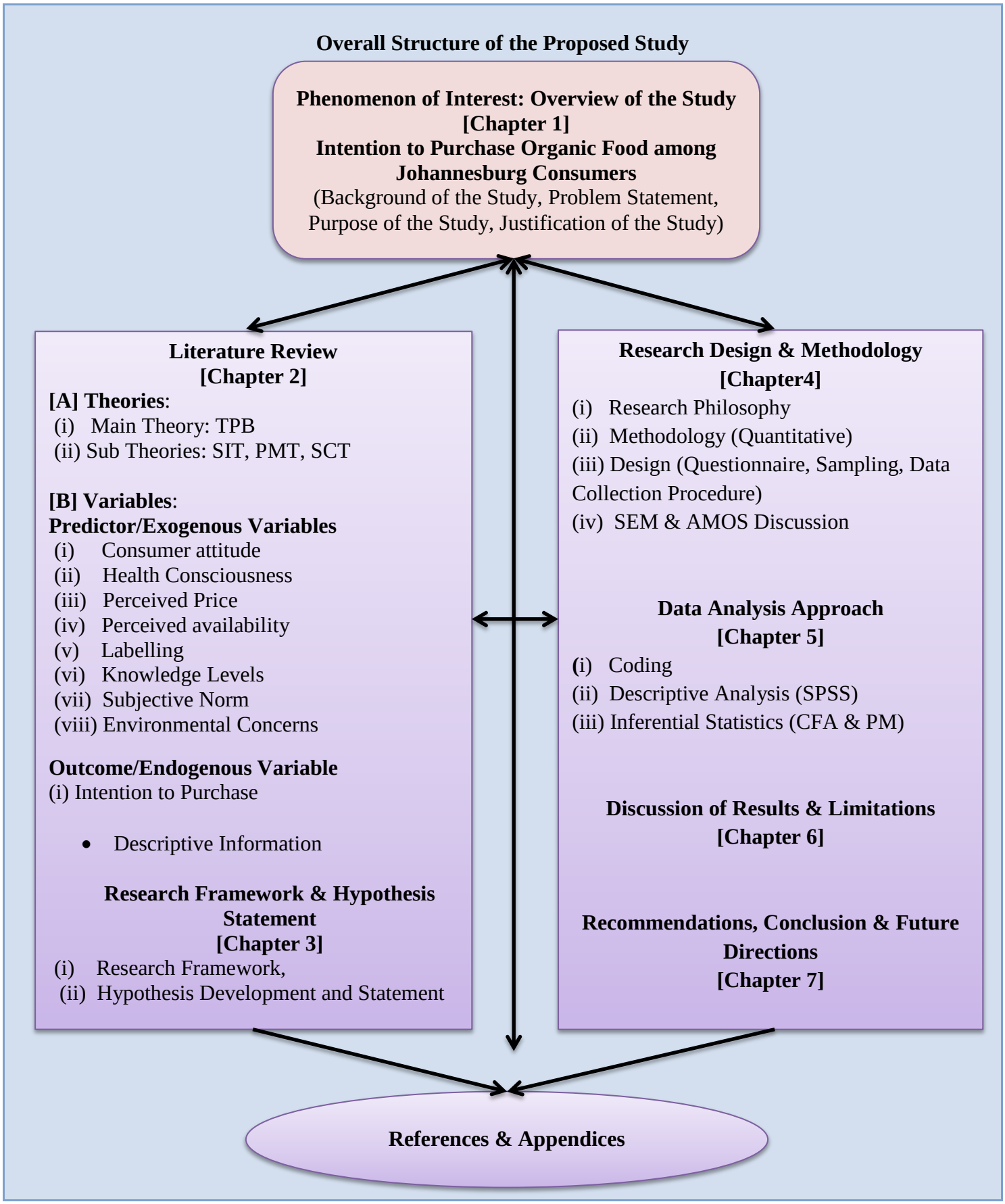
1.8. Definition of Terms

This short section will provide scientific definitions of the terms used in the current study. Hence, it presents the definitions that were adopted in this study:

- **Antecedent** – A thing that exists before or rationally precedes another
- **Behavioural Intention** – An indication of a person's willingness to carry out a specific behaviour (Ajzen & Fishbein, 2010). In market research, purchase intention is regarded as a forecasting instrument (Lipman, 1988).
- **Organic** – Organic refers to a produce that has been cultivated in line with particular principles during production, handling, processing and marketing steps. However, it does not refer to the features and properties of the finished produce. Therefore, "organic" is a process claim, not a 'produce' or product claim (Kouba, 2002).
- **Organic Food** – Organic food is any food grown through the use of environmentally and animal friendly farming techniques (Soil Association, 2013)
- **Word of Mouth** – It is a marketing method that depends on casual social interactions to (freely) promote a product (http://www.marketingterms.com/).
- **Word of Mouse** – Word of mouth has evolved into word of mouse, which is communication or delivery of messages via computer-based mediums like community websites, e-mail, blogs, Facebook posts, Twitter, Pinterest boards, Internet listings (http://yoursolutions.forrent.com/).
- **Price Discrimination or Product Differentiation** – It is a pricing strategy that charges customers different prices for the same product or service (http://www.investopedia.com/).
- **Niche Marketing** – It is about concentrating all marketing efforts on a small but specific and well defined segment of the population (http://www.businessdictionary.com/definition/niche-marketing.html).

The following figure provides the overall structure of the current study.

Figure 1.4: Structure of the Study



The above figure shows that this study has 7 chapters. Chapter 1 provided an overview of the study. Also, in line with the figure above, the remainder of this study was structured as follows: Chapter 2 provided a review the literature on the underlying theory and the variables under study. In the same chapter, a discussion on the descriptive information was provided. Chapter 3 was dedicated sorely for the conceptual framework for the current study. In the same chapter a discussion on the hypothesis development and statement was provided. Chapter 4 was reserved for the research methodology – i.e., research philosophy and research design as well as other aspects. Chapter 5 presented the data analysis approach that was used in the current study. Chapter 6 provided a discussion of the findings together with the limitations of the current study. Finally, Chapter 7 was set aside for the recommendations, conclusion and most importantly – future directions.

1.9. Chapter Summary

This chapter provided an overview of the overall study. A comprehensive introduction was provided and thereafter a broad reflection on the background of the study was provided. The next unit clearly stated the problem that necessitated the pursuit of this study, after identifying a *legitimate* gap in literature. The purpose of this study mainly hinged on the problem and the identified gap, while the research objectives and questions stemmed from the purpose of the study. A justification of the worthwhileness of the current study was also provided. The Consistency Matrix was used to synthesise the key aspects of this study. Thereafter, a research process was explicated followed by the overall structure of the current study.

The next chapter provides a comprehensive account of the literature that was reviewed.

CHAPTER II

LITERATURE REVIEW: PART A

"Sorry, I don't eat any fast food. I believe in eating healthy organic foods for a better lifestyle." — Keegan Allen

2.0. Introduction

This section provided a detailed discussion and account based on collected writings of earlier researchers on aspects pertaining to the precursors of consumer purchase intentions for organic food. Part A of the literature review provides theoretical evidence (background theory) or foregoing research relating to the research constructs (empirical investigation) that was used to contextualize this study. In view of the above, a brief history or background was provided first, and then a discussion on the conceptual framework – the Theory of Planned Behaviour (TPB) was provided, followed by a discussion of research variables. Part B provides a discussion on demographic variables that were used in this study.

2.1. Definition of Organic Farming?

Organic agriculture's (IFOAM) definition describes the basic tenets of organic farming:

> ""…..includes all agricultural systems that promote the environmentally, socially and economically sound production of food and fibers. These systems take local soil fertility as a key to successful production. By respecting the natural capacity of plants, animals and the landscape, it aims to optimise quality in all aspects of agriculture and the environment. Organic agriculture dramatically reduces external inputs by refraining from the use of chemo-synthetic fertilisers, pesticides, and pharmaceuticals. Instead it allows the powerful laws of nature to increase both agricultural yields and disease resistance. Organic agriculture adheres to globally accepted principles, which are implemented within local social-economic, geo-climatical and cultural settings" (IFOAM, 2004a).

Organic food is the yield from organic agricultural methods or ecological farming techniques (Suh, 2009). Although literature is not necessarily consistent in its precise definition of organic farming or on what makes food to be termed 'organic', it is generally agreed that organic farming relates to an agricultural technique whereby produces are cultivated by means of organic farming techniques- i.e., without the usage of chemical fertilizers, as a result, this decreases environmental contamination (Vindigni, Janssen & Jager 2002). Specifically, a high volume of literature on organic food seem to define organic farming as an agricultural technique grounded on a balanced selection of crops, application of varied crop rotation schemes and the enhancement of soil fertility in a bid to assist in protecting environmental systems (International Trade Centre, 1999).

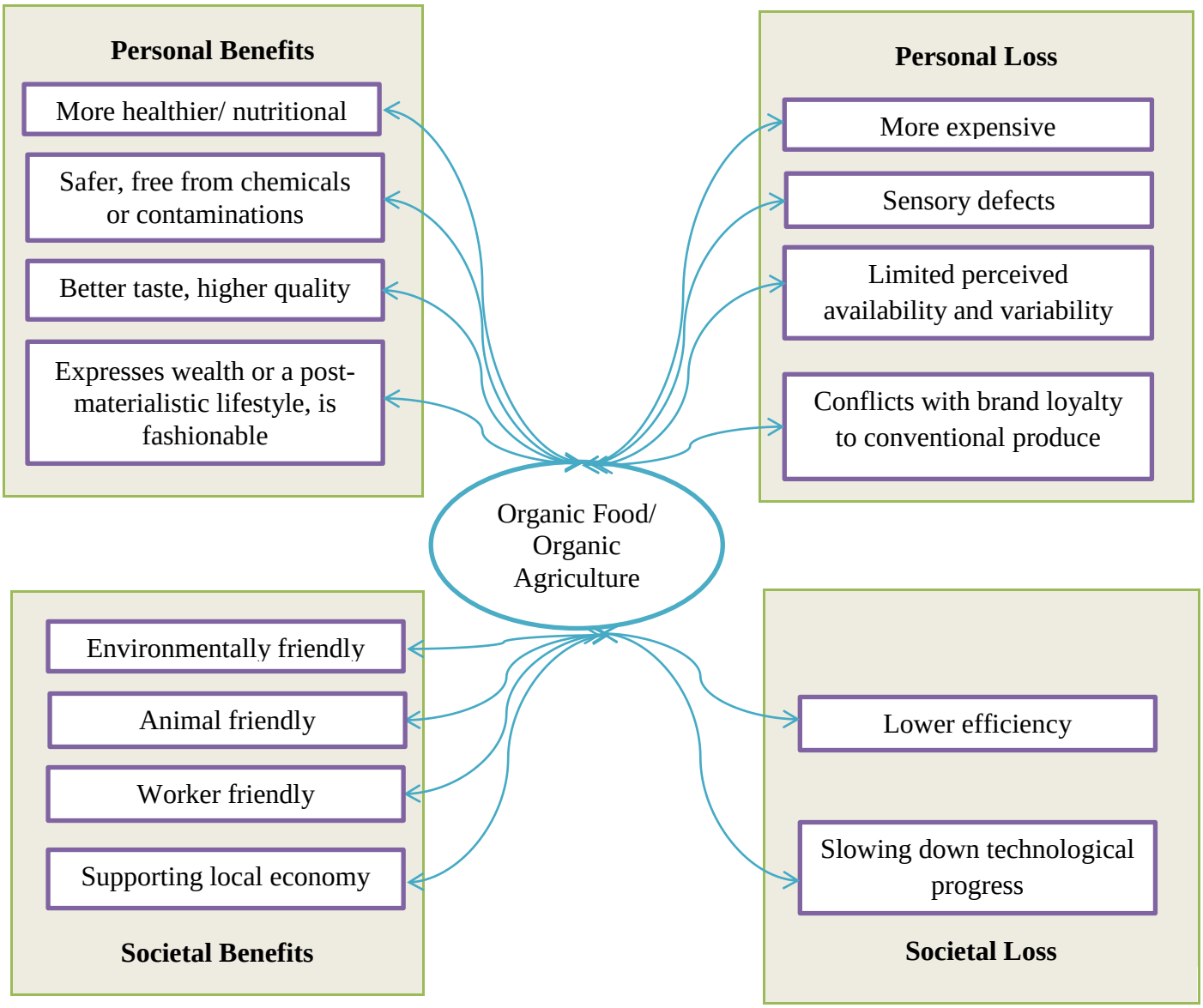
The term *organic* is often used to refer to different foodstuffs including fruit and vegetables, animal and dairy foods, along with grains, pulses, cereals as well as new organic ranges that are introduced in today's ever competitive marketplace, for example, the range now extends to non-food products like cosmetics and shampoos (Hau & Joaris, 2000). This has been partly attributable not only to users' concern about aspects relating to their wellbeing (i.e., aspects on food and their safety), but similarly, to other things that are absorbed by their bodies (Opinion Research, 1990). Most recently, the events like the COP17 Durban Seminar on Climate Change have led to an awareness that focuses on the need to protect the environment in South Africa. The increase in organic farming coupled with positive consumer purchase intentions for organic food is as a result of the widely held view that organic farming techniques are less harmful to the environment. However, it remains to be seen whether South African consumers' intention to purchase the outputs from organic farming will become more positive in future and thus continue to drive future demand for such produces.

Owing to the constant growth of the organic market, organic food is gradually becoming available even in historically conventional retail outlets. Organic foodstuffs are now placed along with both conventional and *conventional-plus* foods (i.e., produces with characteristics that similarly apply to organic foodstuffs, for example, 'no artificial additives or flavours') (Stolz, Stolze, Janssen & Hamm, 2011). The overlap in these produces further reinforces the question of whether conventional-plus foodstuffs may successfully out-compete organic foodstuffs. Nonetheless, research shows that the so-called conventional-plus produces compete with conventional as opposed to organic foods (Stolz et al., 2011).

2.2. Beliefs about Organic Food

The figure below, linked to the meaning of organic food (i.e., the beliefs about organic food in the minds of consumers), delineates between the costs and benefits of organic produces. It is believed that consumers that derive benefits from organic food are likely to develop positive purchase intentions for such produces. However, if consumers perceive organic food to have more costs than benefits, then such consumers are bound to reject or shun away from such foodstuffs and are more likely to develop negative purchase intentions for such foods Klöckner (2012).

Figure 2.1: The Likely Benefits or Costs of Organic Food



Source: Klöckner (2012)

Figure 2.1 shows beliefs about organic food, i.e., their benefits and costs as summarised by Klöckner (2012) as well as scholars like Padel and Foster, (2005), Özcelik and Ucar, (2008).

2.3. Principles of Organic Agriculture

These principles are the roots from which organic farming develops and serve as a catalyst of the organic movement. The drive behind these principles is to ensure that organic farming yields safe, healthy foodstuffs and ecologically sound techniques. In line with IFOAM (2005), organic agriculture is grounded on four important principles:

- **The Principle of Health** – Organic farming must enhance and sustain the health of soil, animal, plant, human and planet. This principle underscores the fact that the

wellbeing of individual human beings and communities must not be detached from the health of the environment. Moreover, organic agriculture must enhance and sustain the health of organisms and ecosystems. It should yield high quality, nourishing food that gives rise to better well-being and preventive health care. Evidently, it must avoid the use of pesticides, fertilisers, food additives, animal drugs that may have harmful health effects.

- **The Principle of Ecology –** Organic farming must be grounded on living ecological systems, work with them and help sustain them. It should be embedded within living ecological systems and production, be centered on recycling and ecological processes. Moreover, organic farming must realise an ecological balance through the creation of farming methods and maintenance of agricultural and genetic diversity.
- **The Principle of Fairness –** Fairness in this regard is characterised by equity, justice, respect and stewardship of the dual world, both between people and the way they relate with other living beings. This principle recommends that animals must be granted the opportunities and conditions of life that accord with their natural behaviour, physiology and well-being (i.e., the notion of animal rights). It necessitates that the production, distribution and trade systems should be open, equitable and account for the real ecological and societal costs.
- **The Principle of Care –** Organic farming ought to be managed in a protective and responsible manner to safeguard the wellbeing and health of present-day and future age groups as well as that of the environment. Given the imperfect understanding of ecologies and farming, caution must be taken when introducing new technological equipment and when introducing new farming techniques. Therefore, organic farming must avoid significant risks by embracing suitable technologies while rejecting unpredictable ones.

2.4. The World Market for Organic Food

Organic farming has advanced swiftly worldwide throughout the last decades and is currently implemented in roughly 120 countries around the world (Willer & Kilcher, 2011). On a continent level, Australia/Oceania has the most organic land – approximately 11.9 million hectares, then Europe comes second with approximately 7 million hectares, followed by Latin America with 5.8 million hectares, then Asia with approximately 2.9 million hectares, followed by North America with roughly 2.2 million hectares and lastly Africa with almost

0.9 million hectares (Willer & Kilcher, 2012). The countries with the highest share of organic farming land include Italy, Germany and Spain (Willer & Kilcher, 2011). Table 2.1 further reveals the fact that organic farming is still a new phenomenon in Africa, where South Africa is located and, as abovementioned, the country shares virtually 0.9 million hectares of organic land with other African countries that have adopted this farming technique. The table below shows the amount of organic land with respect to different continents as per the year 2007.

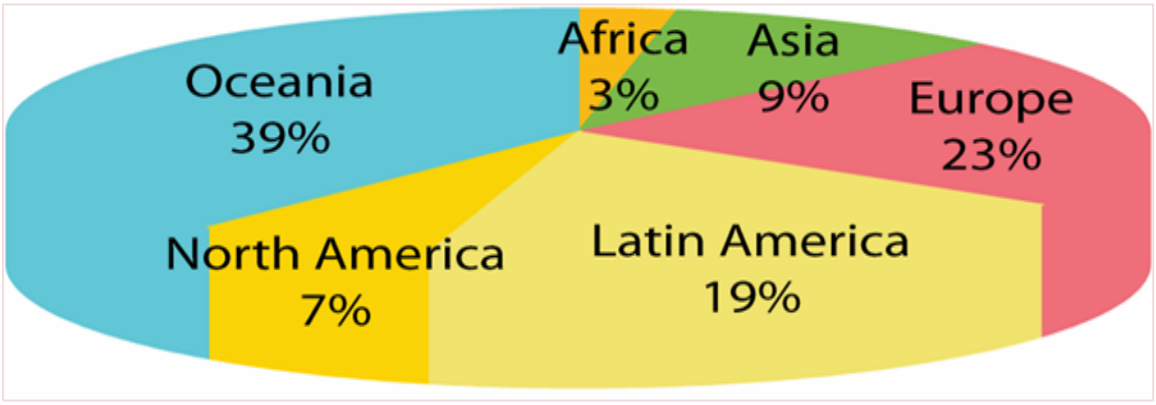
Table 2.1: Organic Land and Farms by Continent

Continent	Organic Land Area (Hectares)	Share of the Total Agricultural Area	Organic Farms
Africa	890,5040	0.11	124,805
Asia	2,893,572	0.21	129,927
Europe	6,920,462	1.38	187,697
Latin America	5,809,320	0.93	176,710
North America	2,199,225	0.56	12,063
Australia	11,845,100	2.59	2,689
Total	30,558,183	5.78	633,891

Source: The Research Institute of Organic Agriculture FiBL, (2007)

Ever since 2007, there has been an increase in the amount of organic agricultural land in many countries. According to the Research Institute of Organic Agriculture FiBL, (2007), North America and Europe are the two continents that gained roughly half a million hectares of agricultural land in 2007 in comparison to 2006. Accordingly, this is equivalent 29% and 8% increase respectively for the two continents, signifying exceptional growth for North America. The organic food market continues to expand globally at an average rate of 20% yearly, with more than 37 million hectares of land worldwide being organically managed by approximately 2 million agriculturalists (Pino et al., 2012).

Figure 2.2: Organic Food Market Worldwide



Source: Willer (2012)

2.5. Organic Farming from the African Context

The history of organic farming in Africa can be traced from 1898, when the first organic garden was created at Peramiho, southern Tanzania (Institute of Natural Resources, 2008). From that time onwards, the garden has been enriched only with wood ash, compost, stable and most recently – green manure. In so doing, the main drive was and continues to be the preservation of soil fertility while acting in harmony with nature. Besides this one instance, African literature on organic farming was not documented until the 1990s, where the organic focus shifted to become more export oriented (Institute of Natural Resources, 2008). The figure below shows a typical organic farm.

Figure 2.3: A Typical Organic Farm

Source: The Organic Centre (2008)

In Cameroon, organic farming has been driven by an institute called EXPORT AGRO, which started in 1990. In Kenya, official organic farming was initiated in the early 1980s with the formation of organic training organisations. In Uganda, the growth of organic farming was driven by the export market and in 1994 firms began taking part in organic farming, seeking to tap into the opportunities presented by the export market. In South Africa, organic agriculture has developed from small informal farmers producing organic crops to a fast developing and formal sector (Institute of Natural Resources, 2008). The formalisation of the South African organic food sector has been linked to the founding of the Organic Agriculture

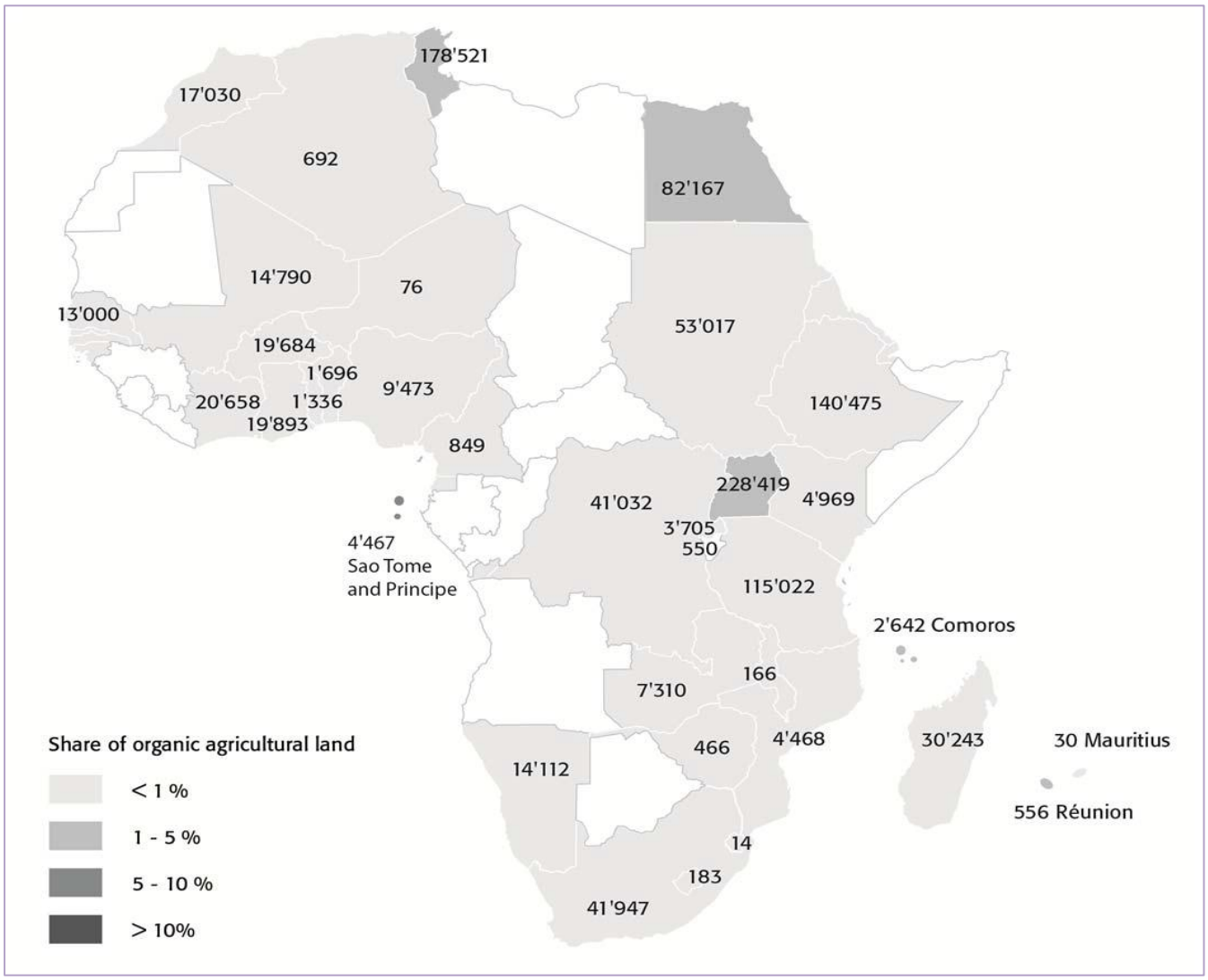
Association of South Africa (OAASA) in 1994 (Van Zyl, 2000; Parrott & Elzakker, 2003). However, owing to the nonexistence of reliable record keeping and formal legislation for organic farming in South Africa (Engel, 2008), the exact worth and extent of organic food production has not been determined correctly (Institute of Natural Resources, 2008). Nonetheless, South Africa has a growing and robust local market for organic foodstuffs and the country's exports continue to increase.

In global terms, Africa comprises 3% of the world's organic farming land (Willer, 2007). Countries with the most organic land are Uganda (228,419 hectares), Tunisia (178,521 hectares) and Ethiopia (140,475 hectares). South Africa recorded a low amount of 41,942 hectares of agricultural land in 2012 (Willer, 2007). Despite this low figure, South Africa is SADC's leading organic food producer, consisting of 53% of the region's organically farmed land in 2005 and remains the region's largest exporter for such produces (SADC Trade, 2008). In 2011, there were more than 1,1million licensed organic producers in Africa – approximately 3% of the world's organic farming land. In the same year, Uganda had the largest number of organic farms, i.e., more than 187,893 farms, while Ethiopia being second (more than 100,000 farms), followed by Tanzania (85,366 farms).

In addition, the specific type of organic farming activities tend to vary from country to country based on factors such as the size of the country's farming land, financial incentives set aside to promote organic farming activities, and the legal or regulatory environment around organic farming. Though Uganda had the largest number of organic farms, Rwanda had the largest share of organic land across the continent, i.e., 228 419 hectares (Willer, 2012). In some countries organic agriculture is confined to special farmers or is directed and dictated by the government, which may discourage some farmers from producing such produces. South Africa seems to show some signs of flexibility as many organic farms are managed privately (as organic farming was spear-headed by individual farmers), with less or minimal government intervention (Engel, 2008). According to Willer (2012), the share of organic agricultural land for South Africa was 41 947 hectares

The following figure shows the share of organic farming land in Africa per country.

Figure 2.4: Share of Organic Farming Land in Africa (Hectares)



Source: Willer (2012)

The growing consumer concerns about conventional food have created some advancements within organic markets. Consumers' purchase intentions for organic food are increasingly becoming positive due to the following reasons:

- They believe that organic food is produced without insect repellents;
- They care about foodstuffs that support sustainable agricultural production techniques, particularly biodiversity, for example, supporting rare animal and plant species. Such consumers tend to care more about the well-being of animals;
- They intend to purchase food with a familiar origin and know that the production of such food benefits themselves (through high quality), producers as well as the environment;
- They favour yields that contribute to the alleviation of the effects of climate change.

2.6. Organic Farming in South Africa

The South African industry for organic food and the agriculture industry are not yet as radical as those in many European nations and in the United States of America (Du Toit & Crafford, 2003). Moreover, very few studies have been done on aspects relating to the organic food market. As a result, there are few or no formal statistical records for the market value of eco-friendly produces in South Africa. The market value of eco-friendly agrarian foodstuffs has been estimated by weighing the volume in circulation, total productivity, valuing transaction costs of the company supplying the produces (Du Toit & Crafford, 2003).

In South Africa, organic foodstuffs are categorised as environmentally friendly produces. The types of organic produces available in the country's retail outlets include, but not limited to, grains, fruits and vegetables, beans, special products, butter, diary milk, cheese, yoghurt, chicken, meat, fish, pork, sausage, ham, food seasoning, flour, vegetable oil, vinegar, bread, green tea, barley tea, corn tea, grain powder brown rice tea, biscuits cereals, snacks, mayonnaise, candy, jam, fruit juice, baby products skin cream, water tissue, body wash, laundry and kitchen cleaning materials (Engel, 2008). This shows that a wide range of organic food products are *now* accessible in South African retail outlets. However, much needs to be done to promote this fairly new market.

The next unit will provide a comprehensive and critical discussion of the study framework – Ajzen's Theory of Planned Behaviour.

2.7. Theoretical Foundation: Ajzen's Theory of Planned Behaviour (TPB)

2.7.1. An Outline of the TPB

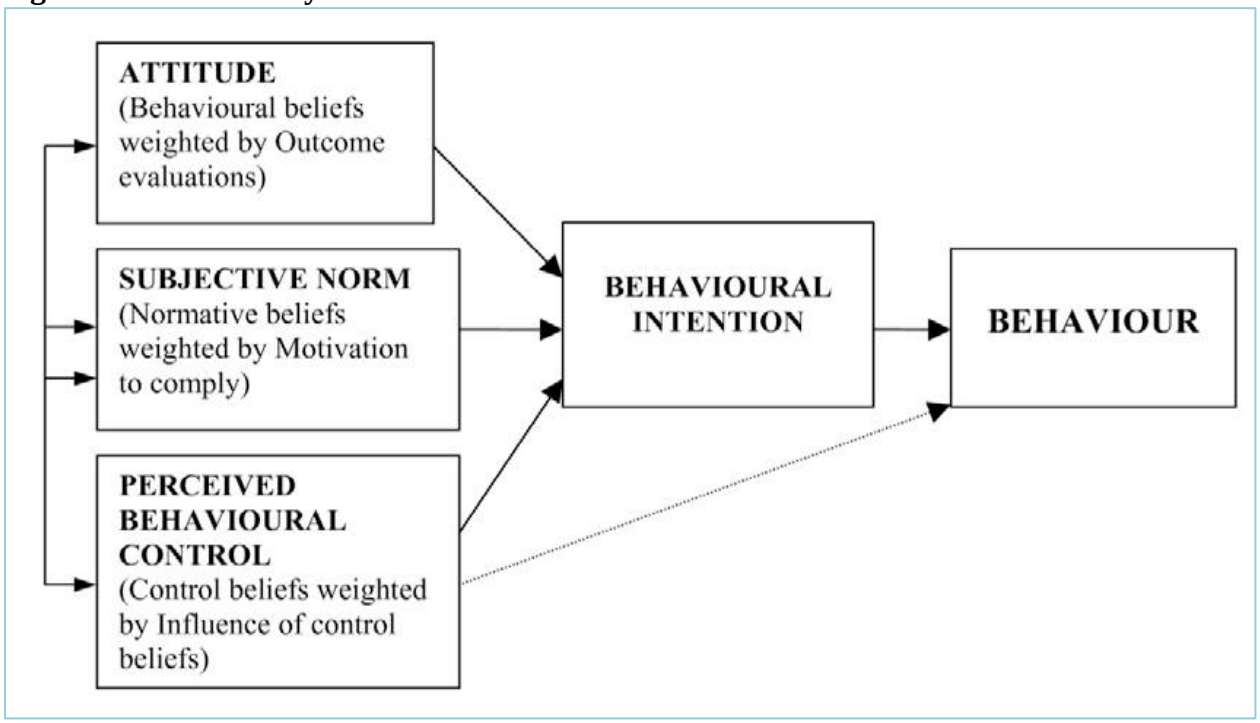
Ajzen's TPB includes three fundamental variables used to predict the purchase intention of end-users and eventually behaviour. These three key mechanisms comprise of subjective norms, attitude, and behavioural control (Ajzen & Fishbein, 1980). Nonetheless, this theory seems to underscore a *dualistic* approach to the prediction of intention as it seems as if the two dominant components in the TPB model are attitude and subjective norm. Consumer attitude are about behavioural beliefs determined by outcome evaluations. The model assumes that attitude is made of up of both positive and negative implications on person's particular actions. Subjective norm is about normative and social influences or beliefs that are determined by an individual's motivation to comply (Ajzen, 1991). Perceived behavioral control relates to individuals' views of their capability to carry out a specified behaviour and

it is governed by a complete set of accessible control beliefs. Intention refers to the likelihood of executing a specific behaviour, in relation to normative influences and attitudinal considerations (Ajzen, 1991). Intention may perhaps offer organic marketers some valued insights of how end-users are expected to act regarding certain produces. In line with Ajzen and Fishbein (1980), intention helps in understanding buyers' judgment on the basis of how they make their ultimate consumption decision. Therefore, a positive intention can lead a consumer to decide on buying produces within a specific food category. By and large, under the TPB, the intention to engage in a particular behaviour depends on a rational and pre-meditated choice (Ajzen, 1991).

2.7.2. TPB: A Further Description

A behavioural-intention model was developed by Ajzen (1991) and it has been extensively used in marketing research, predominantly in forecasting consumer purchase intentions which are used to predict actual behaviour. The general assumption of the underlying TPB framework is that behavioural intention is meaningfully governed by three predictor variables of attitude, subjective norm, and perceived behavioural control (Ajzen, 1991). For the most part, the TPB has demonstrated its applicability to many studies and differing research contexts (Holst & Iversen, 2011). For this reason, it was deemed relevant for the current study and was applied when predicting consumer purchase intentions for organic food.

Figure 2.5: The Theory of Planned Behaviour



Source: Ajzen (1991)

2.7.3. Consumer Attitude

The TPB indicates that "attitude" is a central predictor of "behavioural intention" and this has been long-established in prolific or high volume of studies (Ajzen, 1991). Therefore, the TPB suggests that attitude toward a particular activity will result in a stronger intention to carry out that conduct (Ajzen & Fishbein, 2008). Consumer attitude influence intentions held by end-users and the more favourable the attitude, the greater the plan to perform a particular behaviour (Tarkiainen & Sundqvist, 2005). In relation to the expectancy-value theory (Ajzen, 2001; Ajzen & Fishbein, 2008), attitudes stem from the proliferation of beliefs with individuals' evaluations. However, since consumer attitudes are internal dispositions, it can be difficult to effectively predict them. Importantly, Johnson (2002) noted that consumer attitude is some of the most misinterpreted characteristics of our dispositions.

As aforementioned, the TPB postulates that a stronger attitude to a particular behaviour results in a greater intention to execute that activity (Ajzen, 1991). Prolific behaviour research underscores the fact that consumer attitudes are an important predictor of how end-users derive value along with their consumption intentions for organic food. Furthermore, foregoing writings have variously supported the attitude-intention association, presenting some statistical evidence that, for instance, environmental consumer attitudes have an effect on consumers' desire to purchase organic food (Tarkiainen & Sundqvist, 2005; Smith & Paladino, 2010). Squires, Juric and Cornwell (2001) also highlighted this positive relationship in their finding that shoppers who have self-declared *green* consumer attitude are more likely to have positive purchase intentions for organic produces than those without such attitudes. Similarly, Honkanen, Verplanken and Olsen (2006) conducted a research on the motives driving organic food choice for Norwegian consumers and the results showed that consumer attitude toward organic food and ecological motives had a significant effect on consumer purchase intention for organic food. De Magistris and Gracia (2008) reached a conclusion that the principal motives for purchasing organic food are the consumer attitudes toward organic food as they have a greater impact on purchase intention than environmental motives. On average, as suggested by Saba and Messina (2003), consumer attitudes toward organic food are generally positive.

On the contrary, other investigators found that these favourable attitudes toward organic food were not ultimately replicated in buyers' consumption intentions (Magnusson et al., 2001). By and large, even though behavioural studies place more emphasis on the positive

correlation between consumer attitude and intentions (for instance, Chen, 2007; Magnusson et al., 2001; Werner & Alvensleben, 2011; Padel & Foster, 2005; Tarkiainen & Sundqvist, 2005), empirical support for this association remains inconclusive. On the same note, a study conducted by Padel and Foster (2005) demonstrated that consumer attitude has a slight effect on intentions whereas Tarkiainen and Sundqvist (2005) supported the point that consumer attitude has a significant bearing on consumer purchase intentions. However, a study by Tung, Shih, Wei & Chen (2012) found that there is attitudinal inconsistency or attitudinal ambivalence when shoppers plan to purchase organic food. This perhaps implies that despite the fact consumers may have or exhibit positive attitudes to obtaining organic food; they may be ambivalent altogether. This indecisiveness has the prospect of not resulting in the anticipated consumption intentions. Accordingly, this conclusion challenges the widely held proposition that having positive consumer attitude result in desirable purchase intentions.

In line with the results from a study conducted by Chen (2007), consumer attitude was found to have a moderate correlation with purchase intention for organic food. Additionally, this moderate and yet statistically significant relationship has been reinforced by Padel and Foster (2005). Interestingly, in a study conducted by Pomsanam et al. (2014), there was no statistical support for the proposition that consumer attitude influences purchase intention for organic food. Therefore, their results revealed that no association is present between attitude to organic food and purchase intention. Noteworthy, many of the previous studies have underscored the significance of consumer attitude on purchase intentions for organic food, *albeit* with contrasting results (e.g., Olivová, 2011). Concisely, on the balance of all the foregoing empirical discoveries, it looks as if the proven position is that a positive relationship between consumer attitude and consumer purchase intentions for organic food does exist. Nevertheless, such an association has not remained unchallenged and studies have not resolved the lack of unanimity in findings. Thus, the current study sought to test this 'conventional' wisdom that consumer attitude result in favourable purchase intentions.

2.7.3.1. The Classic Behavioural Proposition (Breckler, 1984)

Breckler (1984) proposed that cognition, affect and conation are three indispensable elements of a more generally defined "attitude". Correspondingly, if one was to examine the fundamental characteristics of Assael (1995)'s consumer attitude model, it will be important to mention that consumer attitude develops due to the blend of three fundamental elements: cognitive, affective and conation. However, this multi-component view of attitude emphasise

the importance of cognition and affect as the most central components of attitude. In line with Breckler (1984)'s supposition, such an attitude is believed to be a noteworthy predictor of the ensuing intentions (Engel et al., 1990). The following are the central components of attitude, and were taken into account when measuring this variable:

- Cognitive Element – It reflects the beliefs and knowledge of a person concerning a particular product or service (Fishbein & Ajzen, 1975).
- Affective Element – It comes about as a result of a person's feelings toward a certain product or service.
- Behavioural or Conative Element – It is an expression of the consumer buying intention (Eagly & Chaiken, 1993).

Agarwal and Malhotra (2005) indicated that the interaction between these elements impact consumer attitude and choice. It is at times possible to differentiate between "feelers" and "thinkers" due to the fact that individuals tend to differ in their tendency to align their attitude on affect or cognition. Dean, Raats and Shepherd (2008) argued that affect and cognition blend together in a compensatory way, and similarly this combination was also apparent for consumers' intention to purchase organic food. More tangible, the perceived costs of intending to buy organic foodstuffs may be offset by the favourable feelings that such produces create. Additionally, Lavine, Thomsen, Zanna and Borgida (1998) found that when consumers' feelings and beliefs about a specific object are of opposite valence, feelings are more likely to preponderate. Ajzen (2001) opined that reaction times are considerably shorter for emotional judgments than for rational judgements. This may suggest that the affective components that underlie consumer attitude are more easily accessible in one's memory.

Furthermore, these results emphasise the significance of including both cognitive and affective attitude components in food choice models, particularly where affect plays a vital part on purchase intention (Ajzen, 2001; Lavine et al., 1998). For individuals that are aware of this uncertainty, this cognizance may lessen the importance of a rational approach, and they may possibly depend more on their feelings (i.e., affective processing) in developing a subjective attitude toward organic food.

- **Emotions as the Strongest Affective Response –** Peter, Olson and Grunert (1999) made a distinction between the four general kinds of affective responses: specific feelings, moods, emotions and evaluations. These kinds of reaction vary in the

intensity, with which one experiences them, i.e., they depend on the level of physical stimulation. Emotions have been found to contain the strongest bodily response (Laros & Steenkamp, 2005). Moreover, Verhoef (2005) established that emotions can govern purchasing intention for organic meat. Amongst the three emotions studied (guilt, fear and empathy), particularly "fear", has more influence on consumers' purchase intention. The fact that fear may possibly impact, for example, consumers' purchase intention for organic meat, is expected because it is determined by uncertainty (Watson & Spence, 2007). Owing to the recent food crises within the meat business, many buyers may feel that their well-being is in jeopardy and hence may not develop positive intentions toward purchasing meat (Abbott, 2001; Pennings et al. 2002; Verbeke, 2001). Noteworthy, consumers' expected emotions have a major effect on desires, which determine intentions and this in turn may impact goal-directed conduct (Perugini & Bagozzi, 2001). Bamberg and Moser (2007) and Kaiser (2006) found that extending the TPB with projected feelings of moral guilt (a feeling of regret) may help in explaining the variance of intention to be conservational, through the use of fewer natural resources.

- **Concern** – This is worry that is expressed by an individual or it means having a strong and undesirable emotion (Berenbaum, Thompson and Pomerantz, 2007). What typifies this uneasiness triggers an emotional response to an expected undesirable effect, either for the individual or for other persons. This may possibly result in a tendency to act contrary to this undesirable effect. In line with Hughner, McDonagh, Prothero, Shultz and Staton (2003)'s view, health concerns linked to conventional food have the greatest relevance in motivating consumers to buy organic food. The fact that organic food is free from genetic modification is an additional stimulus, which has a link to health concern (Makatouni, 2002; Baker, Thompson, Engelken & Huntley, 2004). Likewise, Makatouni (2002) discovered that the fear of animal infections or food scandals linked with the production of conventional food can also have a negative effect on consumer purchase intention for organic food.

2.7.4. Subjective Norm

Subjective norm has been conceptualised as the inner view about key characters in the decision maker's life, making the decision maker to aspire to perform (or not act) in a certain way (Smith & Paladino, 2010). Subjective norm is also considered to be the 'perceived social pressure' that makes a person to feel the necessity to perform a specific behaviour (Ajzen, 1991). Furthermore, in the TPB, subjective norm denotes solely that an individual views significant others as expecting the performance or non-performance of a particular behaviour (Ajzen, 1991). By and large, 'norms' denote all the embedded rules guiding individuals in society, and they inform them about what is considered to be 'right' and/or 'wrong' (Webster, 1975). These norms usually center on a decision maker's preferences of referents and also on the person's longing to act in a way that is consistent with these referents.

Subjective norm is presumed to contain two components that work *in tandem*: normative beliefs (i.e., beliefs about how significant others expect an individual to perform) and the motivation to comply (i.e., positive or negative judgment towards performing in line with a normative belief) (Ajzen, 1991). Linked to subjective norms are values as explained below:

2.7.4.1. Values as Motivators for Organic Food Purchase – Schwartz (1994:21) describes values as "desirable trans-situational goals, varying in importance, that serve as guiding principles in the life of a person or other social entity". The interesting feature of values is that they are more centrally attached to a person's cognitive stand and they are more stable over time (Rokeach, 1973). Dreezens, Martijn, Tenbult, Kok and De Vries (2005) used Schwartz's value system to determine the relationship between basic value orientations beliefs about organic food. A positive relationship was found between beliefs towards purchase intention for organic food.

- **The Subjective Norm 'Theory' –** It underscores the importance of reference groups – whether such individuals support or disapprove of a particular conduct (Ajzen, 1991). A great amount of reference groups like family members, peers and other important persons may reinforce an individual's intention to purchase organic food (Ajzen, 1991; Dean et al., 2008; Pomsanam et al., 2014). The extent to which subjective norms can influence an individual's intention depends on a person's *attachment* to these groups. Nonetheless, there is an apparent discrepancy in the literature about subjective norm as a predictor of consumer purchase intentions for organic food. This inconsistency from foregoing studies will be explained below.

- **Theories Applicable to Reference Group Context –** Human beings have a tendency to place a psychological importance of identifying themselves with a specific group. Social categorisation theory (Turner, 1985) and social identity theory (Tajfel & Turner, 1979) claim that identity encompasses both social identity (i.e., involve groups to which an individual is affiliated or belongs) and personal identity (i.e., arising from one's sense of individuality). Individuals are frequently motivated to attain a desirable social identity while avoiding negative social identity and may use many strategies to achieve this, for example, reducing their associations with groups that do not provide positive relations (Jackson, Hodge, Gerard & Ingram, 1996). Diverse environments can create temporary shifts in an individual's identity, such that the person classifies 'self' with regards to affiliation in one group (Tajfel & Turner, 1986). Depending on certain circumstances, an individual may possibly perceive self in terms of one of the many conceivable social attachments. On the whole, the vital aspect that these theories emphasise is that consumers' purchase intentions depend on the expected benefits, the influence of family, peer groups, colleagues or friends and the produce's ease of access (Ajzen, 1991; Tajfel & Turner, 1986; Turner, 1985). As a result, the part played by reference groups has been deemed to be fundamental to human behavioural intention and is apparent in the above social theories.
- **Social Impact Theory (SIT)** – This theory suggests that an individual's feelings, attitudes, choices or intentions and behaviour can be influenced by the presence of others (Latané & Nida, 1980). Latané (1981)'s SIT indicates that an individual's attitude and intention can be influenced by the connectedness or proximity to a group and the size of a group, which blend together to influence an individual's actions (Latané & Nida, 1980). Since human beings are *social animals* (Blake & Shiffrar, 2007), peers or family members and other individuals can sway them into selecting organic food both directly (i.e., pressurising a person to choose organic produces) and indirectly (i.e., through perceived norms). Prior literature put forward the argument that social influences are amongst the most solid predictors of consumer purchase intentions for organic food (Dickieson & Arkus, 2009; Von Meyer-Höfer, Jaik, & Spiller, 2013).

The relevance of subjective norm has been widely criticised in theory, but researchers have frequently found it to be the weakest predictor of intention (Holst & Iversen, 2011; Bagozzi, 1992; Armitage & Conner, 1998; 2001). The meta-analyses on earlier empirical studies

applying the TPB framework have consistently found that subjective norm was the weakest predictor of intention (Godin & Kok, 1996; Conner & Armitage, 2001). As a result, when making an allowance for all preceding findings, a minor but positive influence of this predictor variable was projected in this study. In addition, the current study empirically investigated whether or not this insignificant and yet positive effect is really present and the results of this analysis will be discussed later.

The need to conform to other people's expectations may possibly explain strong intentions to purchase sustainable produces, notwithstanding a weak individual attitude toward such foods (Vermeir & Verbeke, 2006). When applied to the organic food context, a significant positive relationship was found between subjective norm and purchase intention (Chen, 2007; Dean et al., 2008; Thøgersen, 2007b). Consistent with Gotschi et al. (2007)'s finding, primary socialisation (i.e., values and norms learnt at home) have a substantial effect on the formation of an individual's positive attitude toward organic food, whereas secondary socialisation, for example, within the work environment, has less effect on attitude development.

According to Pomsanam et al. (2014), subjective norms had minor effect on Thai-Cambodian consumers' purchase intentions for organic food. This discovery indicates that these consumers felt that their purchase intentions for organic food were not greatly influenced by other important individuals, for example, family members, peers on social media, but it largely hinged on personal motivation. Perhaps this result may add on the support of the inconclusiveness of previous studies and therefore may provide the basis for conducting this study. Additionally, other empirical studies demonstrate that subjective norms can influence consumer attitude (Oliver & Bearden, 1985), that is, a positive consumer attitude conveyed toward a certain product may influence an attitude formation for the people at close proximity (Tarkiainen & Sundqvist, 2005). Owing to this cross over effect, subjective norms can be viewed as a crucial antecedent of consumer purchase intentions in the model for this study.

The analyses on the application of Ajzen (1991)'s TPB by Armitage and Conner (2001) together with Bamberg and Moser (2007) put forward the fact that subjective norm frequently exerts no direct influence on intention. The assumption was that individuals often conform to social norms not (only) for the reason that they are scared of social pressure, but due to the fact such norms provide information about the most beneficial or appropriate behaviour, given one's beliefs, values or the *right* standards (Bamberg & Moser, 2007; Jager, 2000).

2.7.5. Perceived Behavioural Control (PBC)

PBC refers to individuals' perception regarding their ability to execute a specified behaviour and is determined by one's beliefs about the existence of aspects that could impede or facilitate the execution of that behaviour (Ajzen, 1991). Therefore, Ajzen (1991) developed PBC to explain conducts that are occasionally beyond the control of an individual.

The significance of PBC evidently differs on the basis of the situational context of each study. As the current study did not measure the actual behaviour of consumers, the researcher deemed that PBC would bear little relevance to the research and thus was eliminated in the model. The exclusion of this construct is also linked to Ajzen's (1991:184) statement that:

> *"…perceived behavioural control may not be particularly realistic when a person has relatively little information about the behaviour…"*

Furthermore, Ajzen (1991) clarified this by declaring that perceived abilities and barriers may interfere with intention through the element of (perceived) behavioural control. Since organic food production and marketing is a fairly new phenomenon in South Africa, the researcher expected respondents to be less informed or knowledgeable about the topic as compared to consumers in developed countries like America, Germany, among others. Hence, it followed that consumers in Johannesburg would perceive themselves as less self-confident and not in control of the situation as compared to overseas consumers, making the construct less relevant for the current study.

2.7.6. Purchase Intention

Intention is a function of its three direct determinants of attitude towards behavior, subjective norm and PBC (Holst & Iversen, 2011). This construct represents an individual's motivation to conduct a specific behaviour (Armitage & Conner, 1998). It can also be regarded as the immediate determinant of behaviour and the precursor for upcoming purchasing decisions (Ajzen, 1991). The TPB put forward the fact that as soon as one has a good knowledge about intention, behaviour turns out to be easy to forecast. In addition, a person will usually act consistent with his/her intention, except in cases where there are unforeseen challenges, for instance, lack of skills or resources and opportunities. Stated in a different way, Holst and Iversen (2011), posits that intention may be used as a *proximal measure* of behaviour Nevertheless, this does not suggest that there is frequently a perfect link between intention and behaviour because some instances require that there is actual measure of behaviour,

owing to the discrepancy between positive purchase intentions and *actual* behaviour (Bemmaor, 1995; Belk, 1985; Fishbein & Ajzen, 1975; Manski, 1990; Morrison, 1979; Morwitz, Johnson & Schmittlein, 1993). Additionally, the supposition is that the TPB can be virtually applied with great relevance and predictability should be treated with caution, owing to the fact there is not a readily prevailing measure of actual behaviour (Armitage & Conner, 1998; Francis, et al., 2004).

Intention, as a variable within the TPB model is a fundamental construct (as displayed in Figure 2.5 above), for the reason that it pulls together all the anteceding determinants of attitude, subjective norm and perceived behavioural control, epitomized in the three fundamental predictor variables. In turn, the fact that it is a blend of these anteceding determinants reinforces intention as a variable that can be used to directly approximate actual behaviour (Ajzen, 1991). As a result, from the empirical studies by a number of researchers, three methods have emerged as ways to measure intention – a combined effort to optimally grasp the core principle of intention. These methods include: self-prediction, behavioral intention and desire (Bagozzi, 1992; Shepperd et al., 1988; Warshaw & Davis, 1985).

- **Desire** – Desire and intention share related characteristics, but are actually different mental actions (Bagozzi, 1992). Desire can lead to intention when self-efficacy is present. Self-efficacy is the belief in a person's ability to continue with intention. Desires are not always acted upon owing to perceived or real limitations. Bagozzi (1992) posits that the measure of desire reflects that it lacks realism. This implies that desire only is weak in directly predicting behaviour, but can be augmented by the other two measures of self-prediction and behavioural intention (Bagozzi, 1992).
- **Self-Prediction and Behavioural Intention –** Contrary to the lack of realism reflected by the measure of desire, self-prediction and behavioural intention show real ability in *attempting* to carry on with one's intention. Nonetheless, 'trying' does not constantly result in actual behaviour which reflected by the mindsets of self-prediction and behavioral intention (Bagozzi, 1992).

Accordingly, it is argued that a synergistic effect is created when the three ways of tapping into the intention construct work *in tandem*. When divided, they only partially capture the core principle of the intention variable. Therefore, it is ideal for the three perspectives to be combined as suggested by Francis, et al. (2004).

2.7.7. Application of the TPB to Organic Food

The TPB was not developed specifically to explain consumer purchase intentions for organic food but all sorts of planned behaviour (Olivová, 2011). Within the organic food domain, the TPB has been successfully applied by a number of authors. The usefulness of the TPB has been revealed in numerous studies, in terms of consumer purchase intentions for organic food (for example, Wee, Zakuan, Ismail & Ishak, 2014; Yang, Al-Shaaban & Nguyen, 2014). The TPB has been deemed to be an underlying theory that affords insights into the ascertaining factors of purchase intention for organic food (Magnusson et al., 2001). Moreover, Arvola, Vassallob, Deanc, Lampilaa, Sabab, Lahteenmakia & Shepherd (2008) integrated the extended TPB as the research framework to determine the elements that influence intentions to purchase organic food in European countries like Finland, Italy and United Kingdom. They found that PBC had no effect on intention and was removed from the model. Instead, the variable that was used to extend the model – moral consumer attitude, was found to be a stronger predictor than social norms. Furthermore, Vermeir and Verbeke (2008) used the model to test the impact of social norms and consumer attitude on intentions to purchase an *imaginary* organic diary product. They found that consumer attitude was the strongest predictor of consumer purchase intention. Therefore, consistent with these past studies, this study also integrated the TPB as its theoretical framework and its applicability will be confirmed or refuted at a later stage.

2.7.8. Critique of Ajzen's TPB: Is It Still Relevant Today?

While Ajzen's TBP has been widely criticised and invalidated by numerous researchers or skeptics (for example, Armitage & Conner, 1998; 2001), predominantly for its alleged methodological weaknesses and its failure to take into account all the conceivable influencers on behavioural intention (Sparks & Shepherd, 1992; Bagozzi, 1992; Armitage & Conner, 1998), this theory has kept on being popular amongst many researchers. In addition to its purported flaws, this theory has been seen as being more *causal*, owing to the alleged cause and effect relationship amongst the variables of attitude and intention. Though this might be the case, critics also contend that the direction of causality is not evident as the theory does not make allowances for testing the hidden causal assumptions. Ajzen and Fishbein (1980:98) also admitted that:

> "*...since correlations are simply measures of association and do not imply directionality, we could also predict a person's attitude from his intention*".

More explicitly, the critiques of the attitude construct maintain that this variable partly measures intention (Armitage & Conner, 1998). Rather than being viewed as a complete theory, critics claim that it is more plausible to view the TPB as a principle of the "*proximal determinants of behaviour*" (Armitage & Conner, 1998:1432). Furthermore, skeptics claim that the TPB is 'too ignorant' of other variables that influence behavioural intention (Eagly & Chaiken, 1993; Bagozzi, 1992). This reproach has resulted in an argument over the theory's continued applicability and competency to successfully forecast intentions along with the subsequent behaviour. However, Ajzen and Fishbein (1980) recognize the prominence of outside variables, like personality traits and demographics, but claim that their significance is likely to vary on the basis of contexts versus the constructs of the TPB. They also maintain that the constructs of the TPB remain constant in all situations. In consequence of the criticisms of these claims, a reviewed model was proposed by Holst & Iversen (2011).

Nonetheless, myriad empirical studies appear to confirm the theory's explanatory power (Ajzen, 1991; Francis, et al., 2004; Ajzen & Fishbein, 2010; Conner & Sparks, 2005) and claim that it continues to be the dominant theoretical model in the intention-behaviour literature. Notwithstanding that, the TPB has made a major contribution to contemporary researchers' understanding about predictors of intentions and behaviour. The partial backing of the original TPB can be inferred from a study done by Holst and Iversen (2011), where they took on a cynical perspective of the adequacy of the TPB as a far-reaching theory of envisaging people's intentions and behaviour. Holst and Iversen (2011)'s finding was that attitude was the strongest predictor, whereas subjective norm and PBC had a weak, but positive influence. For that reason, they recommended that a revised version of the TPB must be used by present-day investigators, with an inclusion of a new variable – self-identity. Furthermore, opponents argue in support of the inclusion of exogenous variables, parallel to the predictor variables in the main model and those that will act as determinants of intention (Armitage & Conner, 1998). Furthermore, Armitage and Conner (1998) argued that there is need to extend the TPB with six extra variables, and they include: moral norms, past habit or behaviour, belief salience, PBC set against self-efficacy, affective beliefs and self-identity. However, Armitage and Conner (1998) stated that it was perhaps unwise to simultaneously incorporate all variables to the model, because that would make the framework lose its feature of simplicity. Interestingly, Ajzen (1991:199) approved the addition of extra variables to the TPB only "…*if it can be shown that they capture a significant proportion of*

the variance in intention or behavior after the theory's current variables have been taken into account". Stated differently, notwithstanding the slight explanatory variances of the theory's variables and power, the TPB has only been altered slightly, if not unchanged at all. As a result, the extrapolative power of the TPB was deemed important in guiding this study.

Possibly the greatest contribution of the TPB was the notion of intention being the best predictor of ultimate behaviour. The theory has been variously credited for its simplicity, such that adding extra constructs may perhaps complicate it (Armitage & Conner, 1998). The theory has also offered previous, current and will carry on providing future academics with groundwork upon which to carry on building new and improved theories of studying behaviour. As stated by Smereck and Peterson (2007:17), "*testing a theory is not always an appropriate means to determine its value*". Therefore, it can be specified further that a theory that passes the test of time and continues to provide valuable insights to the new generation of researchers is a theory that has long-established its value (Smereck & Peterson, 2007). Indisputably, the TPB has its place in this classification. Conversely, the outwardly valid claim against the intention-behaviour relationship is that having a desirable intention does not essentially result in desired action or behaviour, but it is possible that having such intentions may possibly result in the demonstration of the desirable behaviour (Holst & Iversen, 2011). In essence, although the applicability of the TBP may have degenerated over the years and has been invalidated by many scholars, the theory remains one of the best theories in modern behavioural literature (Ajzen & Fishbein, 2010). As demonstrated above, there is also considerable amount of evidence that empirical enquiries have benefitted from extending the TPB framework in order to fit their relevant situational environments (e.g., Holst & Iversen, 2011). In addition, it is likely that those who distrust its application in terms of the contemporary situations may have possibly miscalculated its relevance and, as a result, derived uninformed judgements about this decades-old and yet valuable theory. Therefore, despite petty interpretative discrepancies of the variables, the TPB has remained unaltered.

On a final note, the researcher was conscious of the fact that the TPB framework is more than two decades old and as a result may not be reflective of the contemporary situation.

2.8. Health Consciousness – The Imperceptible Dimension

In this day and age, consumers have turned out to be more sensitive about their health, nutrition and value of the food they eat (Kyrikopolous & Van Dikj, 1997). A considerable number of studies are reported in literature and these investigations generally confirm a positive correlation between health consciousness and consumer purchase intentions for organic food (Harper & Makatouni, 2002; Pollard, Kirk & Cade, 2002; Zandstra, De Graaf & Van Staveren, 2001; Shepherd et al., 2005). Over the years, researchers in the organic food sector have consistently highlighted the importance of health-related issues as one of the key antecedents of consumer purchase intentions for non-conventional produces. For example, consumers may be motivated to purchase organic food by the widely held proverb that, "*you are what you eat"*. This saying serves as an example of an ideal that a lot of people may agree with, irrespective of their outlook toward healthy eating at large (Fischler, 1988). It stands to reason that if consumers derive health benefits from organic food; their purchase intentions for such foodstuffs are also likely to be positive. Klöckner, (2012) found that health motivations are also relevant, although they indirectly impact purchase intention. On the whole, consistent practical evidence exists to support a positive link between health consciousness and consumer purchase intentions for organic food.

The notion of health is very extensive and can be approached from many perspectives, for example, nutritional, psychological, social marketing, medical among others. Consistent with global consumer trends, consumers in Johannesburg are also expected to become more health conscious and more attentive to aspects relating to food safety. Previous studies prove that more weightage has been given to health consciousness than other factors like concern about food safety or diet and the environment (e.g., Honkanen et al. 2006; Roitner-Schobesberger, Darnhofer, Somsook & Vogl, 2008). Health encompasses two dimensions from the perspective of consumers: *eating healthily* (i.e., nutritional aspects, for example, a healthy diet) and *avoiding unhealthy foods* (i.e., concerns about food safety, for example, pesticide remains in produces) (Zanoli & Naspetti, 2002; Chinnici, D'Amico & Pecorino, 2002). Organic food's nutritive attribute gives it a competitive advantage over conventionally produced goods (Bourn & Prescott, 2002). Therefore, organic food is viewed as healthier than conventional alternatives (Magnusson et al., 2001; Radman, 2005). According to Grossman (1972a; 1972b), the decline in human health and the motive to invest in good health are the major aspects that influence consumers' positive consideration of organic food.

The non-conventional wisdom that places more weightage on health consciousness is consistent with the fact that a healthy lifestyle is triggered by the saying: "*back to nature*", which is something that has turned out to be a trend for the global society (Chan, 2001). Notwithstanding the general belief regarding the positive relationship between health consciousness and consumer purchase intentions for organic food, other research outcomes do not support this position. For example, Kristensen and Grunert (1991) found that health consciousness was not a significant antecedent of consumer purchase intentions for organic food and may not be adequate in predicting organic purchase intentions. In a more recent study, Lockie et al., (2004) similarly concurs with Kristensen and Grunert (1991) as their findings highlighted the fact that although the relationship between health consciousness and organic purchase intentions does exists, such a link was found to be statistically insignificant (with $p<0.05$ or at 5% alpha level) to confirm a meaningful correlation between these variables. This was the most counter-intuitive finding and therefore sought to challenge the widely held intuition that consumers' purchase intentions for organic food are significantly impacted by health-related reasons. Actually, studies seem to demonstrate the fact that health consciousness alone may not be adequate in forecasting consumer purchase intentions for organic food (Sakthirama, Venkatram & Sivakumar, 2013).

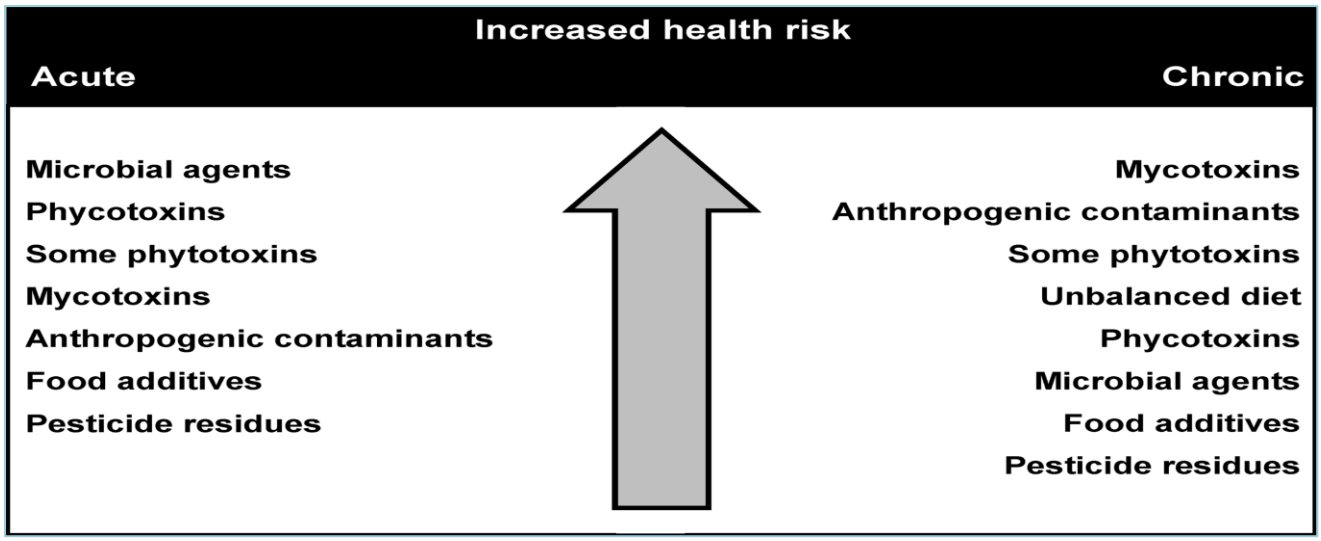
- **The impact of Food Safety** – Addressing the issue of organic food safety has become of major importance, particularly in the eyes of consumers with such high expectations. Consumers are continuously questioning the ability of the current food systems to deliver safe food. Contemporary research experts have also unanimously claimed that organic foods have no side effects or consumption risks due to the use of environmentally-friendly agricultural methods, for example, such produces are perceived as safe for human health (Lea & Worsely, 2005; Radman, 2005; Pomsanam et al., 2014). Conversely, scientific evidence in support of this perception (i.e., the view that the environmentally friendly production techniques of organic farming are equivalent to the production of safe food) is limited, despite the fact that individual testimonies and anecdotal reports abound. This often results in a noticeable discrepancy in the perception of risk between scientists and the general public (Macfarlane, 2002). Likewise, this has also resulted in a number of false, exaggerated or unsubstantiated claims about the *actual* properties of organic food (Magkos, Arvaniti & Zampelas, 2006), for example, the ability of organic food to cure cancer. Unsurprisingly, the validity and truthfulness of this assertion was refuted and

criticised by the medical community as it remains unproven or unrealistic. However, medical practitioners recommend the consumption of organic food as a way of promoting a better health for cancer patients, but with no compelling reason to reduce the risk of or curing cancer (Bishop, 1988; Cancer Treatment Centers of America, 2002; Magkos et al., 2006).

- **Health Hazards** – Studies demonstrate that health hazards are the key motivation for the purchase of organic food and correspondingly the notion of free-from-pesticides is the greatest and central attribute that surrounds organic foodstuffs (Wier & Andersen, 2001; Lodorfos & Dennis, 2008). In a similar vein, Mayfield, Holt and Tranter (2001) found that conventional intensive farming techniques and their requisite of the extensive use of chemical substances have widely become undesirable to a lot of consumers. On the contrary, according to Magkos et al., (2006), it appears as if organic food may not be pesticide-free as claimed, for instance, with regards to fruits and vegetables, because they are more likely to contain agrochemical residues as compared to their conventionally grown alternative. Therefore, it is hard to weigh the risks of different produces on the basis of a production technique, but it should be made apparent is that 'organic' is not automatically equivalent to 'safe'.

The following figure shows a differentiation between acute and chronic risks to one's health due to vulnerabilities that foodstuffs are prone to.

Figure 2.6: Relative Prominence of Food Vulnerabilities for Human Health



Source: Magkos et al. (2003b)

Fundamentally, the overwhelming majority of previous studies seem to demonstrate that health consciousness is a powerful predictor of consumer purchase intention for organic food (Chinnici et al., 2002; Hutchins & Greenhalgh, 1995; Huang, 1996; Schifferstein & Ophuis, 1998; Tregear et al., 1994; Zanoli & Naspetti, 2002). However, health consciousness alone may not adequately predict such intentions (Sakthirama et al., 2013). Similarly, despite the fact that health conscious consumers may invariably be more likely to be motivated to purchase healthier foodstuffs (Quah, & Tan, 2009); this likelihood has not remained unquestionable owing to the contradictory results from other researchers. With this apparent contradiction in opinions and/or findings about the prominence of health consciousness and its ability to predict purchase intention for organic food, the current study aimed to test this variable and the findings will presented at a later stage. The next sections discusses the Health Belief Model (HBM)'s (as a function of health consciousness) ability to predict purchase intention.

2.8.1. A Link between HBM and Purchase Intention for Organic Food

The extant literature on organic food seems to emphasise the undeniable contribution of health consciousness in shaping consumers' purchase intentions. As some consumers intend to buy organic food due to concerns about food safety (i.e., health concern) it is imperative to briefly analyse how health psychological models may further contribute to the knowledge organic food purchase intentions. Rosenstock (1990)'s health-belief model and the connected protection-motivation theory (Rogers, 1975) have previously been applied to consumer purchase intentions for organic food and will be briefly discussed below:

- **The Health-Belief Model (HBM) –** According to this model, the prospect that an individual will do something to avoid illness hinges upon one's observation that: they are personally at risk or exposed to the condition, the costs of the ailment would be grave. This necessitates the need to take the precautionary behavior in order to effectively prevent further exposure to the risk (Rosenstock, 1990). Accordingly, the model's four key elements are theorized as perceived: (i) susceptibility (i.e., the likelihood that a person assigns to individual vulnerability when developing the condition); (ii) severity (i.e., how serious a person considers the costs of developing the state of affairs are); (iii) effectiveness (i.e., the likely benefits of participating in the defensive behavior) and (iv) cost to action (involves stimuli that motivate a person to participate in the health-related behavior) (Becker, 1974; Janz & Becker, 1984;

Rosenstock, 1990). In relation to the HBM, a consumer is more likely to intend to purchase organic produce, if he/she:

- identifies himself/herself to be vulnerable to unhealthy food;
- thinks that unhealthy food is a severe threat to the well-being;
- is mindful of the benefits of altering consumption habits and
- is generally health conscious (Yazdanpanah et al., 2014).

- **The Protection-Motivation Theory (PMT) –** This theory postulates that an individual's motivation to protect themself against health-related threats depends on how big the threat is to oneself coupled with the ability to take effective coping measures. The assessment of the threat rests on the alleged vulnerability and severity of the threat (Rogers, 1975). The variables of PMT were used by Verhoef (2005) to explain preference for organic meat and the fear of health-related costs of buying conventional meat were found to be a significant predictor.

By and large, this study tested the effect of health consciousness on purchase intention for organic food and the results thereof will be discussed in the ensuing section – in Chapter 6.

2.9. Perceived Price

Price is undeniably one of the most prominent cues in the marketplace. The outwardly obvious influence of price is partly due to the point that this cue exists in almost all buying situations. To all consumers, price represents the sum of all economic expenditure that should be sacrificed so as to engage in a particular transaction (Lichtenstein, Ridgway & Netemeyer, 1993). When viewed firmly like this, price typifies the total monetary value that one has to forego. For this reason, higher prices unfavorably affect purchase likelihoods. Nonetheless, a number of scholars have realised that price is a multifaceted and/or intricate impetus and several consumers see price more broadly than strictly in its 'negative part' – i.e., as an expenditure of financial resources. This is true because evidence exist to support the notion that a number of consumers tend to use price as a sign to indicate higher product quality. Hence, higher prices have a tendency to positively influence purchase possibilities (Lichtenstein, Bloch & Black, 1988; Erickson & Johansson, 1985; Zeithaml, 1988; Tellis & Gaeth, 1990). A dual role of pricing as a cue was modeled by Erickson and Johansson (1985) and their finding was that price-level views yielded a direct negative effect on purchase intentions while it had an indirect positive effect on purchase intentions when using perceptions on product quality. To substantiate the fact that the price cue is a very complex

variable, Dickson and Sawyer (1990:51) were quoted saying:

> "*What is clear is that shoppers are very heterogeneous in terms of their attention and reaction to price and price promotions*".

Price can play a positive or negative role in influencing consumers' purchase intention for any produce (Karatu & Mat, 2015). Consumers that perceive price as having a negative role often search for lower priced products or foodstuffs while consumers who identify price with a positive role are more likely to find low prices as being unacceptable (Lichtenstein et al., 1988). Differences in the way buyers view price have a tendency to cause variances in consumer sensitivity or responsiveness to different products in the market. The next section discusses the general function of the price cue.

2.9.1. Negative Role Played by the Price Cue

- *Value Consciousness* – The view of the price cue as an idea that relates to value for money is common amongst many consumers. A number of scholars have defined the notion of 'value' in ways that are in line with this perspective (Tellis & Gaeth, 1990; Lichtenstein et al., 1993; Zeithaml, 1988). As a result, value consciousness is theorized as showing consumers' concern for price paid in relation to expected or received quality, or what is referred to as the value-for-money.
- *Price Consciousness* – This is a 'narrow' characterisation of the price cue and is about the multiplicity of price-related thoughts (Lichtenstein et al., 1993). When narrowly defined, this term means the extent to which the consumer concentrates solely on paying low prices (Monroe & Petroshius, 1981; Erickson & Johansson, 1985; Lichtenstein et al., 1990; Tellis and Gaeth, 1990). When applied to the food market, it means that consumers will only consider buying lowly priced produces.
- *Sale Proneness* – This refers to "an increased propensity to respond to a purchase offer because the sale form in which the price is presented positively affects purchase" (Lichtenstein et al., 1993:236). For a number of shoppers, a heightened sensitivity to price in its negative role is linked to the price cue in its sale form – i.e., offering products or foodstuffs at a discount as opposed to the normal retail price, (for example, Regular Price = R9.99, Sale Price = R7.49 or 25% off). Advertisements on a sale price are usually accompanied by a reference price – a relative price advertisement. These advertisements have been found to heighten perceptions of value in consumers' minds (Monroe & Chapman, 1987). According to Lichtenstein et

al. (1993), such consumer perceptions reflect sale proneness because of the more positive price evaluations due to a buying price being in sale form.

- *Coupon Proneness* – This construct has been defined as "an increased propensity to respond to a purchase offer because the coupon form of the purchase offer positively affects purchase evaluations" (Lichtenstein et al., 1990:56). Quite a lot of researchers have claimed that price reductions in coupon form may possibly create a surge in consumer response more than that which would emanate from a lower non-coupon price (for example, Lichtenstein et al., 1990). Because coupons and sales proneness exemplify prospects for consumers to get produces at a bargain, it is expected that this reduction incites a positive behavioural response. An empirical support for this idea had been found by Peter and Olson (1990) together with Cotton and Babb (1978). Such discoveries imply that an increase in sales owing to a price offered in a coupon form may be caused by a heightened sensitivity to price. This increased sensitivity reflects consumers' *coupon proneness* (Lichtenstein, Netemeyer, & Burton, 1990).

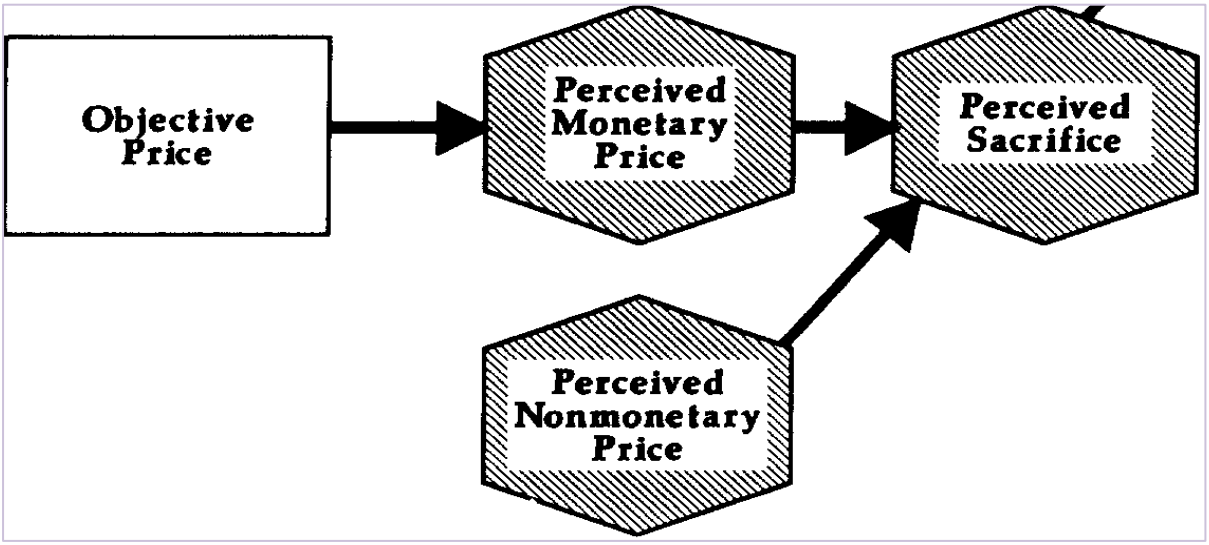
2.9.2. Positive Role Played by the Price Cue

- *Prestige Sensitivity* – This refers to perceptions of the price cue caused by conclusions about what it indicates to other individuals about the consumer. According to Lichtenstein et al. (1993), prestige sensitivity is defined as positive views of the price cue on the basis of consumers' feelings of status and prominence that higher prices mean to others regarding them. For instance, a consumer may buy a very expensive product, not on account of quality perceptions as such, but as a result of his/her view that other people will identify the high price as reflective of his/her inner traits. This has been termed a **correspondent inference attribution** (CIA) by, for example, Jones and Davis (1965) or Calder and Burnkrant (1977). CIA states that a favourable perception of the price cue is grounded on views of what it points to other individuals in a social sense, for example, being perceived as a big spender.
- *Price-Quality Schema* – Some consumers perceive price to have a positive role due to their conclusion that the price level is positively related to the product quality level (Erickson & Johansson, 1985). Consumers tend to perceive price like this because they view higher prices more favorably, i.e., increases in perceptions of product quality for extra financial expenditures (Lichtenstein et al., 1988). In effect, since consumers who view price like this have a tendency to prefer paying higher prices,

Tellis and Gaeth (1990) have termed their behavior as 'price seeking'. Empirical evidence, however, supports the use of price as a proxy indicator of product quality and that this effect differs across products and circumstances (Monroe & Krishnan, 1985). Moreover, empirical results from a number of studies also back-up the belief that some consumers are just more likely to use price as an overall indicator of quality across all products and situations (Peterson & Wilson, 1985; Lichtenstein & Burton 1989). Therefore, a positive relationship between perceived price and perceived quality is likely to be expected, especially for consumers who associate price premium with quality and are more than willing to pay a price premium.

Therefore, buyers who are prestige sensitive or operate on a price-quality schema do not look out for bargain prices, and lowly priced produces may alter their positive purchase intentions to ultimately become negative. The figure below defines the components of price as: (i) objective price (actual product price); (ii) sacrifice and (iii) perceived non-monetary price (price fixed by the consumer, in a way that is meaningful to them) (Oslon, 1977).

Figure: 2.7: The Components of Price

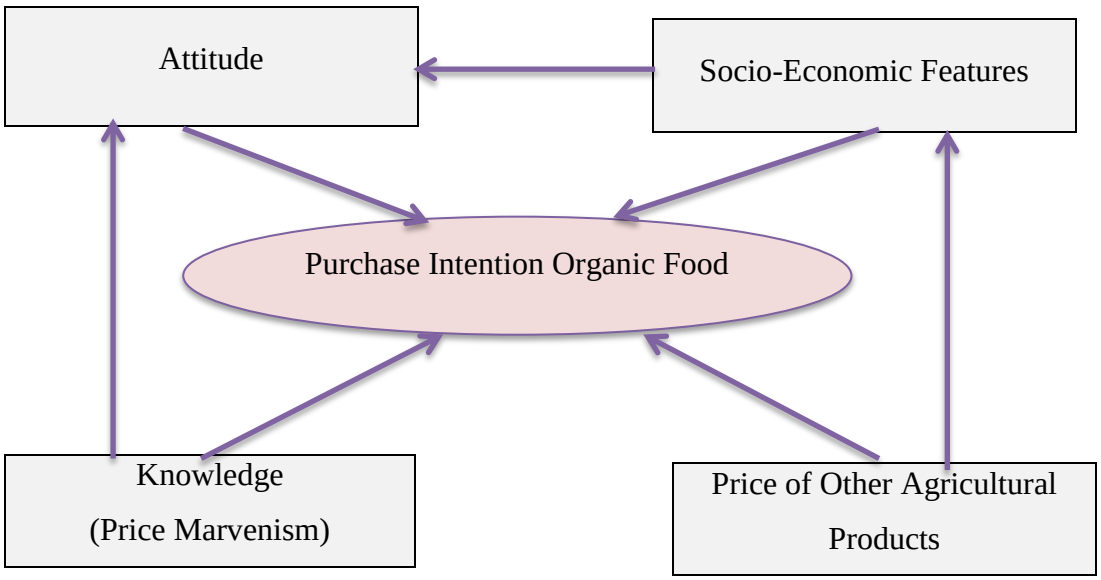


Source: Oslon (1977)

Generally, organic food produces are charged at a somewhat higher price (Magnusson et al., 2001). This has essentially been the greatest and paramount reason for consumers' failure to develop positive purchase intentions toward such produces (Magnusson et al., 2001; Al-Sabbahy et al., 2004). The 'affordability issue' constantly comes up and thus premium pricing for organic food can be a huge obstacle, particularly for low-income (price-sensitive)

buyers, making it really difficult for them to develop favourable purchase intentions for such produces (Shepherd, Paisley, Sparks, Anderson, Eley & Lean, 1996). The implication of this finding is that price sensitive consumers will tend to perceive organic food as 'ridiculously expensive' and hence will not even 'dream' of considering to have them in their shopping baskets. Further evidence provided by Padel and Foster, (2005) suggests that consumers require value for their money so as to justify the price premium paid. Contrary to the above findings, it is usually difficult for consumers to justify whether the price is premium or not, as buyers often lack the facts to sufficiently evaluate their intended purchases (Padel & Foster, 2005). Arguably, the price cue is frequently in conflict with other impetuses, for example, environmental concern (Lockie, Lyons, Lawrence & Mummery, 2002). This implies that consumers' ecological concerns can stimulate them to have positive purchase intentions for organic food but price premium may limit their ability to buy these foodstuffs. Nonetheless, price is not an unqualified hurdle to consumers' positive purchase intentions for organic produces and is by far not the only factor that discourages consumers from intending to buy non-conventional produce. The variable – perceived price can be explained by consumers' willingness to pay as illustrated below.

Figure 2.8: Factors Influencing Consumers' Purchase Intention for Organic Food



Source: Pouratashi, (2012)

By and large, the effect of premium pricing on organic food can be viewed as multi-dimensional (Chinnici et al., 2002; Pouratashi, 2012). From one side it functions as a motivator for organic food purchase (i.e., a proximal indicator for high quality food) while on the other hand it can be a hurdle that makes it less likely for consumers to consider purchasing such foodstuffs (Chinnici et al., 2002). Consumers that are willing to pay a premium price for higher quality foodstuffs appear as if they are not scared-off by such pricing cues, whereas price sensitive consumers tend to focus more on not exceeding their fixed budget. The fact that a highly priced food can be associated with high quality implies that price is not a primary factor, provided that organic food can offer more nutritional value (or superior benefits) than conventional food (Pouratashi, 2012). Although premium prices for organic food have repeatedly been known to be major barrier to positive purchase intentions (for example, Chinnici et al., 2002), this effect should not be over-emphasised as price is not the only determinant of purchase intention. In order for one to figure out the role that price can or cannot play in the consumer decision making process, there must be a distinction between relative and absolute price.

- **Absolute Pricing** – An amount that is paid for a good or service expressed in currency terms (Arsham, 1996). If a consumer only assesses absolute price, it becomes hard for him/her to decide whether a product is priced appropriately to be bought or not. Absolute price can only be assessed against the existing budget. Consistent with the above, it appears as if consumers are in a better position to develop positive purchase intentions for organic food as long as all the foodstuffs they intend to buy fall within the fixed budget.
- **Relative Pricing** – Relative price refers to the quantity of some other good that can be exchanged for a specified quantity of a given good (Soler, Gil & Sanchez, 2002). Consumers often determine more precisely whether a product is expensive or not on the basis of comparing its price to a reference price (Soler et al., 2002). In this case, organic food can be related to a similar alternative, i.e. conventional food product, in order to determine whether it is reasonably or excessively priced. As long as the relative price does not out-stretch the budget, this price is likely to create much more relevance for consumer buying intentions.

Therefore, provided that the price premium is not too extreme, the premiumness of organic food is no insurmountable hurdle to the development of positive intentions for such produces.

2.10. Perceived Availability – The Effort Dimension

As organic food development is predominantly demand-led, this implies that consumers may confront or have to deal with perceived availability issues, and this often restricts choice of such produces due to the lack of variety (Latacz-Lohmann & Foster, 1997). Perceived availability implies the ease or difficulty to obtain a specific product (Ahmad & Juhdi, 2008). According to Saunders (1999) and Thompson (2000), the main purchasing criteria affecting organically grown food is perceived availability, and if consumers have to spend extra time and effort locating organically produced food, their purchase intentions will end up being negatively affected. On the contrary, studies have found that limited availability of organic food is not a key impediment to positive purchase intentions (Magnusson et al., 2001). In actual fact, Tarkiainen and Sundqvist (2005) established that the perceived ease of access to organic foodstuffs has no influence on consumers' intention to purchase such produces.

Very few consumers are keen to go the extra mile in order to obtain organic food. In a qualitative study conducted by Zanoli & Naspetti (2002) on Italian consumers, individuals concurred that it is indeed difficult to find organic food. Likewise, in a study with a UK sample, Padel and Foster (2005) concluded that consumers responded negatively to restricted choice alternatives and greater effort that must be put forth for one to get organic food. The following aspects are relevant in further explaining the variable of perceived availability:

- **Convenience** – Closely linked to the construct of perceived availability is convenience. This reflects a tendency to lessen the time and effort (both physical and mental) spent when intending to buy any type of a product or produce. Noteworthy, research suggests that consumers do not switch to organic food owing to convenience reasons (Gofton, 1995; Brunsø, Fjord & Grunert, 2002). Generally, consumers are more likely to develop unfavourable intentions towards organic food if they are constantly disrupted by the lack of organic food in convenient retail outlets.
- **Visibility and Shelf-Placement** – The effect of placement and visibility of organic produces on shelf and/or shelf space in comparison to conventional alternatives may be viewed as a sub-title of perceived availability and its analysis may provide further insights on the construct under study. Produces that are displayed close to highly preferred items (i.e., at close proximity to focal items) have greater prospects of being selected (Simonson & Winer, 1992). These impacts are particularly pertinent when the consumers are not interested in engaging with their shopping decisions or are

under time pressure (for example, shopping after work). Unfortunately, in most supermarkets the shelf space is often spread in huge disfavour of organically produced foodstuffs. Interestingly, the effect of shelf-placement on organic food has been under-researched. Available and scarce research on this aspect suggests that greater the shelf space a product occupies in a retail outlet, the higher the possibility that such as product would be noticed (Dreze et al., 1994; Desment & Renaudin, 1998; Torjusen, 2004). Once it is seen, then it becomes more likely that a consumer may choose it, after having developed positive purchase intentions for such a product.

Table 2.2 below shows some examples of the main retail outlets that sell organic food around South Africa as per a survey done in the Western Cape by Engel (2008).

Table 2.2: Perceived Availability of Organic Produce in South Africa (Western Cape)

Retail Stores that Sell Organic Food	DISTRIBUTION OF SURVEY RESPONSES IN PERCENTAGES (%)									
	Organic Products		Fresh Organic Goods		Organic Grocery Lines		Organic Fruit Juice		Organic Wine	
	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO
Woolworths	94%	4%	88%	12%	100%	0%	67%	33%	45%	55%
Pick 'n Pay	20%	80%	100%	0%	100%	0%	91%	9%	18%	82%
Shoprite/ Checkers	20%	80%	92%	8%	92%	8%	92%	8%	50%	50%
Spar	65%	35%	82%	18%	100%	0%	64%	36%	55%	45%

Source: Engel 2008

The table above shows that Woolworths was found to be the retailer that had a variety of organic products, with the least being Pick 'n Pay and Shoprite/Checkers. Pick 'n Pay was the top retailer in terms of stocking fresh organic products with the lowest being Spar. Organic grocery lines are mainly found at Woolworths, Pick 'n Pay and Spar while the rest can be found at Shoprite/Checkers. Most of the organic fruit juice and organic wine can be found at Spar, with Pick 'n Pay being the least in this regard.

On the whole, based on the above discussion, unavailability of organic food can discourage consumers from developing positive purchase intentions for organic food, while the reverse may hold for perceived availability.

2.11. Labelling

Labels for organic produce are used by consumers as a trust-building characteristic when intending to buy organic produce, particularly if the buying intention is shaped at a place that is mistrusted, for example, a superstore (Krystallis & Chryssohoidis, 2005). Clear and inimitable labelling should remain as an imperative condition for marketers, in their drive to trigger lasting and positive purchase intentions for organic food amongst prospective and consumers (Hack, 1995; Trijp, Steenkamp & Candel, 1997; Sylvander, 1995). These labels may only be valid for certain product lines and others may be assigned only in one region or country and/or across the country's boundaries. However, the problem with these labels is that many consumers may have very limited knowledge regarding their meaning (Hack, 1995). This propels consumers to blindly place their trust in claims made by manufacturers, promoters and sales representatives, for it is extremely unlikely that at the point-of-purchase they can be able to freely verify the claims made about organic food (Bellows & Onyango, 2008). On a similar vein, it has become imperative for consumers to, firstly, be able to at least subconsciously notice, comprehend and secondly, have faith in the information that is being communicated by the label. This implies that if consumers do not trust the labels, they must be able to verify the communicated information rather than to recklessly shape their purchase intentions based on weak or false organic food labels (Padel & Foster, 2005; Teisl & Roe, 2005). The certification of organic food should be a credible way of convincing consumers that the food is truly organic (Engel, 2008). However, certified production is generally geared to foods destined for export to areas beyond the country's boundaries.

Authenticity of organic food is an important aspect that can be confirmed by the product's appearance, for example, fruits and vegetables must not be too shiny, too big, have bugs or small holes in order for them to be viewed as authentically organic. If any of these appear in organic food, consumers may get suspicious and fail to develop positive purchase intentions for such produces. Therefore, it may be beneficial that labels should be visually and verbally appealing to consumers (Baik, Suk, Suh & Kim, 2011). This is also supported by Tang, Fryxell & Chow (2004)'s analysis of the influence of verbal and visual communication on eco-labels, as they established that both visual and verbal appeal had an independent and additive effect on purchase intentions for organic food. This means that the combination of both visual and visual communication is more likely to create the greatest effect. However, literature further suggests that if a buyer chooses to shop in an organic food specialty outlet,

organic food labels simply have a lessened influence on their purchase intentions (Klöckner, 2012). On a similar vein, Leire and Thidell (2005) concluded that the usage of eco-labels in the dynamic forces of the supermarket zone is under-researched. Figure 2.9 below shows some organic labels used by the "Big 4" organic food retail outlets in South Africa.

Figure 2.9: Organic Food Labels at the Big 4 Retail Outlets in South Africa

Spar

Pick 'n Pay

Woolworths

Shoprite/Checkers

Source: Pictures taken In-Store during Data Collection Process

The importance of trust and personal relations within the organic food sector is another key aspect that will be discussed below. Problems about labels may negatively affect consumers' trust on organic food labels. Once trust is negatively affected, or broken, it may be difficult for marketers of organic food to instill it in consumers, hence the need for a brief discussion.

2.11.1. The Significance of Trust

As it is uneasy for consumers to trace back the food on shelves throughout the entire production and supply chain, with no substantial effort, trust in the growers or farmers, vendors (wholesalers or retailers) turns out to be a crucial issue. According to Brom (2000), increasing concerns about food safety are an indication that consumers are losing trust on the security of foodstuffs. Often consumers have no means to validate that a certain produce actually fulfills the promises of eco-label standards. This difficulty in checking the authenticity of organic food labels necessitates that a control system, with evidently defined guidelines for production techniques and labelling of certified foodstuffs should be developed (McCluskey, 2000). Trust in farmers and certifying bodies is one of the main determining factors of positive purchase intentions for organic food (Harper & Makatouni, 2002; Krystallis & Chryssohoidis, 2005; Padel & Foster, 2005).

Trust is essentially about credibility and consumers' confidence built towards the certifying institution. Essoussi and Zahaf (2009) established that organic food produced within one's country is more trusted than that which is traded in. Furthermore, other foregoing studies established that distrust of organic food labelling and accreditation claims essentially act as a major barrier to buying completely organic food (Padel & Foster, 2005). Disbelieving that organic agriculture indeed makes a difference regarding the food characteristics that are vital for an individual (e.g., better taste, food safety, animal welfare, environmental friendliness) and that the produce promoted with organic food labels is truly organic can be seen as a huge negative impact for any intention to purchase organic food. Mistrust in organic food certification usually creates a negative influence on consumer attitude relating to organic food (Aarset, Beckmann, Bigne, Beveridge, Bjorndal, Bunting, McDonagh, Mariojouls, Muir, Prothero, Reisch, Smith, Tveteras & Young, 2004). Teisl and Roe (2005) demonstrated that credible labels have a positive effect on purchase intention or product choice. Furthermore, Søderskov and Daugbjerg (2011) established that trust in eco-labels is greater in countries where the government is involved in the allocation of eco-labels. The fact that there is a large variation of food labels may invariably lead to consumer confusion pertaining the standard(s)

behind eco-labels, resulting in mistrust of the produces (Pedersen & Neergard, 2006). As if this confusion was not enough, a large majority of consumers have a very narrow understanding about what labels really signify (Thøgersen, 2000). In order to contribute to the effectiveness of eco-labelling programmes, Teisl and Roe (2005) suggests the following:

- Consumers have to notice (at least subconsciously), understand and have belief in the information transferred by the label.
- Consumers should be able to associate themselves with the label – i.e. the label must communicate a message that is relevant for customer, for example, so that they may say that a certain foodstuff is from organic agriculture.
- Consumers must also be familiar with the certificating institute.

2.11.2. The Significance of Personal Relations

Research suggests that consumers favour buying organic food on first-hand markets (i.e., the effects of direct marketing) over health food stores or supermarkets (i.e., indirect marketing) for the reason that they experience a close relationship with their vendor, owing to the direct communication with farmer (Sirieix & Schaer, 2005). The following table represents the level of consumer trust assigned to each organic food vendor.

Table 2.3: Degree of Consumer Trust Assigned to Each Organic Food Vendor

Type of Vendor	Level of Trust
Direct Marketing	High
Specialty stores	Medium
Supermarkets	Low

Source: Points taken from Klöckner (2012)

The above table indicates that direct marketing by local farmers has the highest level of trust. This can be due to the fact that consumers may have a direct relationship with the farmer and direct access to the much-needed information. Specialty stores have an average or medium level of trust. This can be as a result of the fact that customer relationships are seen as being distanced (or indirect) rather than intimate. Supermarkets get the lowermost level of trust rating (Klöckner, 2012). This can be explained by the fact that trust in this area is transmitted by food label instead and less by the connection with the farmers.

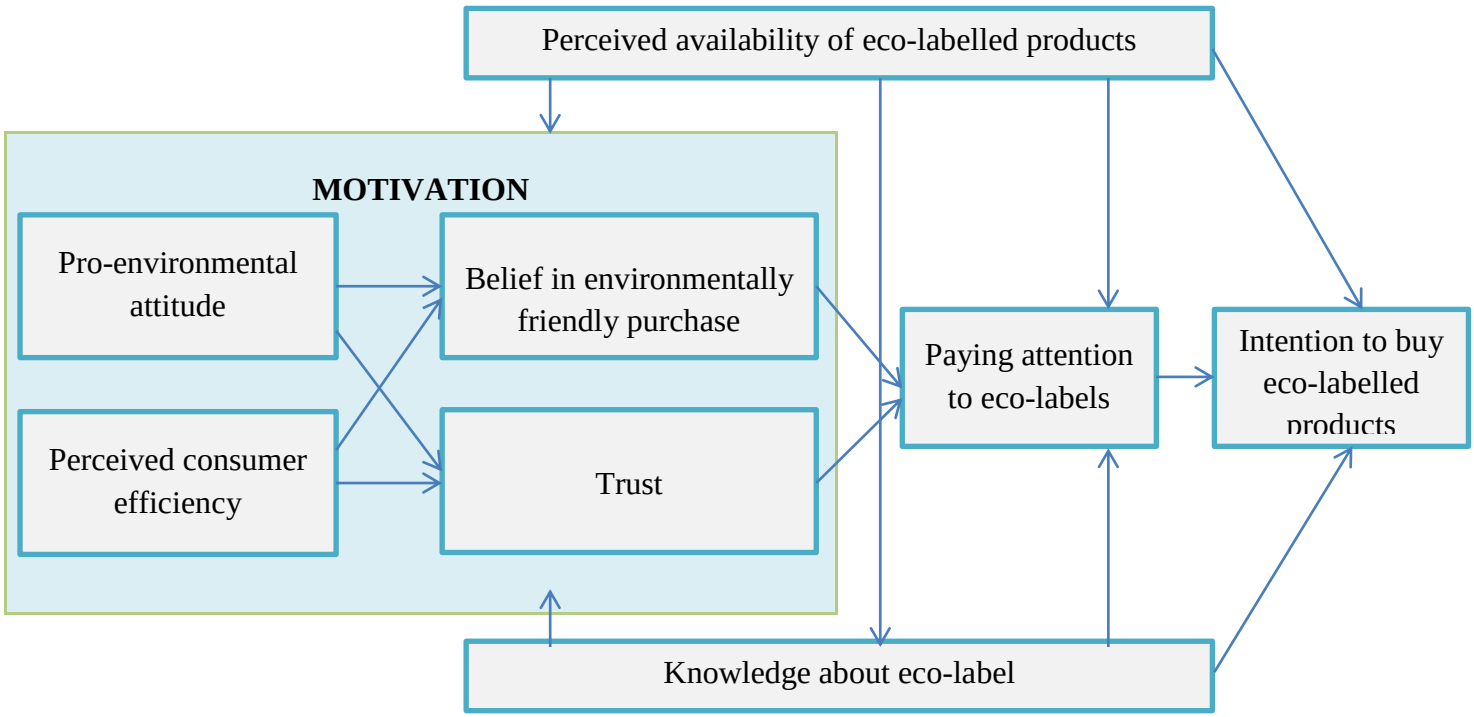
2.11.3. Problems about Eco-Labelling

It is possible that many consumers may have very limited knowledge regarding the meaning of labels (Klöckner, 2012). Bearing this in mind, it has become imperative that consumers must be exposed first to the label, and then after this exposure, they can be able to at least subconsciously notice, comprehend, like and have faith in the information that is being communicated by the label. Customers that do not trust the labels must be given a platform to verify the communicated information, rather than being left with no choice, than to blindly accept the claims about organic produce. Credible labels usually have a huge and positive influence on product choice and/or purchase intentions (Teisl & Roe, 2005).

Mislabelling conventional food for organic food has been found to be another serious problem (Klöckner, 2012). If a lot of cases of mislabelling non-organic food organic food are reported, then the likely possibility is that the organic food market will eventually collapse as consumers' faith in organic labels will be undermined (Teisl & Roe, 2005). Hence, it is vital for marketers to guard against such mislabelling as it has harmful effects on consumer purchase intentions for organic food.

In order to provide a recapitulation of the above discussion, a model proposed by Thøgersen (2000) is presented below as a good synthesis of the above section.

Figure 2.10: Labelling As a Predictor of Organic Purchase Intention



Source: Modified from Thøgersen (2000:293)

Figure 2.10 above is a modified version of Thøgersen (2000)'s model that describes under which circumstances consumers are able to notice eco-labels. Thøgersen (2000) assumed that the decision to purchase an eco-labelled produce in a superstore (or purchase intention) depends on perceived availability of eco-labelled foodstuffs in the retail, knowledge about the label as well as paying attention to the labels. The model proposes that paying attention to eco-labels is affected by perceived availability of the eco-labeled product, knowledge about eco-labeled product, perceived consumer efficiency belief in benefits of environment-friendly purchasing and trust. Therefore, the above figure can best summarise the above discussion.

2.11.4. Organic Food Certification in South Africa

The certification of organic food in South Africa started with vegetables, avocadoes, mangoes, spices, herbs and rooibos tea (International Trade Centre, 2010). In 1999, only 35 farmhouses were licensed to produce organic food in South Africa, while in 2000 this figure grew to roughly 150 (Moffet, 2001). It was estimated that 240 farms, with a total area of 43 620 hectares were certified in 2002 (GROLINK, 2002). This has now increased to comprise a much wider range of produces like organic wines, dairy products and olive oil among others (Scialabba & Hattam, 2011). The Organic Agricultural Association of South Africa (OAASA) is convinced that there are roughly 100 non-certified farmers, producing organic food in nearly 1000 hectares, who market informally through farm markets or sell to local villages (Kisaka-Lwayo, & Obi, 2014).

Organic certification is centered on certain standards, which are used to create meaning and assurance about what an "organic" claim on a product basically entails. Standards for organic farming in South Africa are being established; however they are still in the promulgation phase (Kisaka-Lwayo, & Obi, 2014). According to Nedlac (2008), the certification systems that are available to provide certification to organic food in South Africa include:

(i) Participatory Guarantee Systems (PGS) – This is a *first party* certification system, where producer groups agree to specific set of standards, but monitor themselves for compliance with the set standards. This system has been very effective in assisting small farmer development. Furthermore, PGS systems offer a number of prospects for the development and support of emerging farmers in South Africa.

(ii) Group certification with Internal Control Systems (ICS) – This is a third party system for the certification for small scale farmers. They monitor their own performance and they get monitored through the inspection.

Within the organic food market, there are manufacturers that are not certified: i.e., that are not certified as organic in conversion and not certified as organic (Kisaka-Lwayo, 2012). Importantly, standards and certification procedures can either be voluntary or legislated. Certified organic produces were introduced in South Africa between 1999 and 2002, with Woolworths leading the introduction of organic food (Callear, 2005; Hall, 2005; Mead, 2006). However, not all organic markets necessitate that such foodstuffs need to be certified. This can be explained by the fact that some consumers develop a trust relationship with farmers and this guarantees them that the products are highly organic. Such consumers do not call for a standardised certification practice like EcoCert (which certifies many farms in the country) (Irwin, 2002). Other certification bodies in South Africa are Biodynamic and Organic Certification Authority (BODCA), SGS South Africa (Société Générale de Surveillance) and Africa's Farm Certified Organic (AFRISCO) (Callear, 2005).

The costs associated with certifying foodstuffs have led to many producers becoming reluctant to certifying them. Certified organic produces (either a logo or certification number) sold in major retailers in the country are branded organic, with Woolworths having its own organic brands (Du Toit & Crafford, 2003; Engel, 2008; Kisaka-Lwayo, 2012). Organic products that get exported to other countries need to adhere to the organic certification procedure and standards which are applicable to the trading country (Engel, 2008). The Organic Agricultural Association of South Africa (OOASA) persuades its members to show OOASA labels in produces that they cultivate for sale. Consumers are guaranteed that such brands conform to the country's draft on organic food standards.

2.11.5. Regulation in the South Africa Organic Food Industry

Presently, South Africa has no standard, regulation or legislation controlling organic agriculture production (SAOSO, 2015). Stakeholders in the organic food sector have been petitioning the National Department of Agriculture for the formation of a South African National Organic Standard since 1994 (Parrott & Elzakker, 2003). South Africa started developing organic standards (mainly drawn from IFOAM, European Union and Codex Alimentarius standards) that were expected to be completed by the end of 2002 (Willer & Yussefi (2002). A draft regulation developed by DAFF, on organic products has been present for over 10 years and has gone through various drafts. Nonetheless, till to-date, the draft regulation has not been promulgated to regulate the organic food industry (SAOSO, 2015). In the midst of all this, voluntary standards have been proposed by the organic sector and they

act as a temporary measure (Kisaka-Lwayo, 2012). For the meantime, labelling of organic produces is only dependent on the Advertising Standards Authority (ASA) and the Consumer Protection Act (CPA). However, these laws only offer "protection" to consumers with respect to misleading advertising (SAOSO, 2015) and do not act as an effective guide to other concerned stakeholders, like organic food producers.

There are two pieces of statutes in South Africa (both in draft format) that regulate the organic food industry. They include the *Draft Standard and Requirements Regarding Export of Rooibos and Rooibos Mixtures* (i.e. Draft Rooibos Standards and Requirements) as well as the *Draft Regulations Regarding Control over the sale of Organically Produced Products in the Republic of South Africa* (i.e. Draft Organic Regulations) (Kisaka-Lwayo, 2012). Another draft was presented by the National Department of Agriculture and was expected to cover all facets of organic production (Kisaka-Lwayo, 2012). On the 15th of February 2007, the third draft of legislation for organically produced foodstuffs for sale in South Africa was closed for public comment. The existing draft regulation forms the foundation for the voluntary standard that is presently being developed. In June 2008, the draft was awaiting authorisation from the National Department of Agriculture after which it was supposed to be examined by the World Trade Organisation (WTO), in terms of the trade agreements that South Africa has entered into (Institute of Natural Resources, 2008). Table 2.4 below provides a summary of the certified farms across the country for the year 2002.

Table 2.4: An Outline of Certified Farms in South Africa

Province	Afrisco	BDOCA	Ecocert	SGS	Others	Total farms	Total hectares
Western Cape	0	5	67	23	7	**102**	7,000
Eastern Cape	18	0	13	3	0	**34**	3,500 (+180,000[1])
Northern Cape	0	0	5	0	2	**7**	2,000 (+6,000[2])
Free State	0	0	7	2	0	**9**	2,000
KwaZulu-Natal	11[3]	1	4	1	0	**17**	500
Mpumalanga	0	2	8	2	0	**12**	500
Limpopo	0	2	12	2	0	**16**	5,000
North West	1	1	3	1	0	**6**	500
Gauteng	0	12	3	0	0	**15**	2,000
Unsure of prov.	-	9	-	4	8	**21**	2,000
Total	**30**	**32**	**122**	**38**	**17**	**239**	**25,000 (+186,000)**

Adapted from Irwin (2002)

The above table shows that in 2002, a total of 239 farms were certified as organic across the country's nine provinces. However, the number might have increased considering that this data is fairly old and new certifications may have been granted over the years.

2.12. Knowledge Levels

Consumers' knowledge is a pertinent construct that influences how and what they intend to purchase, notwithstanding the type of product or foodstuff. It is generally believed that an individual's knowledge level helps in determining and shaping his/her purchase intention. This belief has amassed a lot of support from many academics (for example, Magnusson et al., 2001; Leire & Thidell (2004); Lodorfos & Dennis, 2008; Lucas & Röhrich, 2008; Gracia et al., 2010) which found a positive correlation between knowledge levels and intention to purchase organic food. It is usually acknowledged that consumers that exhibit higher knowledge levels (both abstract and concrete) are more likely to consume healthier foodstuffs (which are associated with organic produce) due to the fact that they are more well-informed and have greater awareness of the impact of 'unsafe' food on their welfare (Cranfield & Magnusson 2003; Krystallis, Fotopoulos & Zotos, 2006). A distinction between the two types of knowledge, when examining environmental action, was provided by Schahn and Holzer (1990b) and they include:

> *Abstract knowledge* which relates to knowledge regarding environmental issues like problems, causes, and other factors among others, and:
>
> *Concrete knowledge* which is about the behavioural knowledge that consumers can use and it can be acted upon.

On the contrary, a notable study by Govindasamy and Italia (1999) documented an inverse relationship between consumers' knowledge levels and their purchase intentions for chemical-free foodstuffs. Furthermore, other previous studies have shown that buyers have a basic understanding of the word 'organic' (Smith & Paladino, 2010). From consumers' perspective, organic food information is a vital issue as it characterizes the only 'tool' that buyers have to distinguish the aspects of organically produced foodstuffs from conventional ones (Von Alvesleben, 1997). Failure to develop positive purchase intentions toward organic food can be due to the lack of knowledge and/or lack of detailed information such that consumers are unable to clearly distinguish the distinctive characteristics of organic from conventionally grown alternatives (Yiridoe, Bonti-Ankomah & Martin, 2005). In contrast, low knowledge levels may negatively affect consumers' trust, for example, in a new organic

produce, owing to the lack of new knowledge, which is bound to create low trust levels (Aertsens, Mondelaers, Verbeke, Buysse & Van Huylenbroeck, 2011). Moreover, consumers may understand the core features of organic foodstuffs, but at the same time may lack full knowledge and meaning of organic farming methods and how they are different from conventional farming practices (Von Alvesleben, 1997). Presumably, this lack of consumer knowledge may be explained by the fact that some consumers do not see the need of go beyond just the basic understanding of foodstuffs. However, there is a lack of reasonable amount of research efforts to support the assumption that a large majority of consumers have basic knowledge about organic food (Smith & Paladino, 2010).

Linked with the construct of knowledge levels is risk aversion as explicated below:

- **Risk Aversion** – Consumers, as abovementioned, generally view organic food as 'completely safe to eat' and less risky (Anderson et al., 2006). Normally, researchers frequently assume that buyers are risk averse, in that they constantly seek to reduce uncertainty (for example, Mandrik, 2005). Accordingly, the link between risk aversion and organic knowledge is that organic foods are considered as a risky choice due to the fact that many consumers lack information, for example, about the benefits of these produces. This may also be as a result of the lack of **familiarity** with organic food when compared to conventional alternatives. This notion is validated by research that has established that a chief motive for not switching to organic foodstuffs is that buyers are satisfied with traditional food and are unwilling to risk the *certainty* of conventional foodstuffs over *uncertainty* organic produce (Magnusson et al., 2001).
    - *Familiarity* – This can be defined as "the number of product-related experiences accumulated by the consumer" (Alba & Hutchinson, 1987:411). Familiarity is mainly imperative with regard to organic food due to the fact that 'organic' is a fairly new word and so far it has amassed a relatively low amount of consumer experience. Magnusson et al. (2001) established that familiarity offered an incomplete description as to why a small number of consumers purchase organic produces, despite their favourable purchase intentions towards these goods.
    - *Education* – Earlier researchers have placed much emphasis on the relevance education on shaping positive purchase intentions of 'healthy' produces (for example, Shamsollahi, Chong & Nahid, 2013). By and large, it has been long-

established that consumers with higher educational levels are more likely to consider buying healthier foodstuffs due to the fact that they are well-informed and have greater consciousness of their sustainability (Cranfield & Magnusson, 2003; Loureiro & Hine, 2002; Rodriguez, Lupin & Lacaze, 2006). Conversely, other researchers found an inverse association between education and willingness to pay for organic foodstuffs (Govindasamy & Italia, 1999; Misra, Huang & Ott, 1991; Malone, 1990). Given these incompatible results, this study tested the impact of knowledge levels on consumer purchase intentions for organic food.

- *Access to Information* – Information is of no use if it is not freely available to users, in this context – consumers. The 21st Century consumer has a lot of information available at his/her fingertips, e.g., information from blogs, websites, social media, word of mouth and much more. Moreover, this easy access to information is mainly due to the explosion of the Internet and Information Technology (IT), making all the relevant information to be simply accessible with much less effort (Bidgoli, 2004; Klöckner, 2012). Therefore, the more accessible the information is, the more consumers are likely start perceiving organic food as being valuable and may develop positive purchase intentions toward such produces.
- *Consumer Skepticism* – Consumers tend to have positive attitudes toward organic food if their organic knowledge increases. Lockie et al. (2002) found that although consumers may express favourable purchase intentions toward organic food, they can still be skeptical of the assertions made about organic products. Providing the necessary information may help in alleviating this cynicism that exists in many consumers.

The above discussion points out to the fact that when consumers have higher knowledge levels about organic food, they are more likely to develop positive intentions toward these chemically free produces. However, this assumption is yet to be proven under hypothesis testing and the results therefore will be discussed at a later stage.

2.13. Environmental Concerns

South Africa is facing a dilemma of growing its economy while at the same time protecting the environment from further degradation (Engel 2008). This problem has been further exacerbated by the growing population in the country as a result of illegal immigrants, leaving the government with no option than to promote economic development (to meet the basic needs of the country's inhabitants) at the expense of environmental protection (Engel, 2008). This economic consideration is explained by the relatively lesser amounts of resources set aside by the South African government to protect the environment (De Villiers, 1998).

With an increasing awareness of environmental degradation, certain factions of the South African society have begun to understand the harmful effects of ecological deterioration to their well-being (De Villiers, 1998). To this end, consumers' ecological concerns have forced marketers to incorporate the environment problem in their decision making (Werner & Alvensleben, 2011). Environmental concerns, coupled with an increasing consumers' interest in organic food has thus led to a commercial interest in organic marketing. Additionally, consumers' willingness to pay for organics has also led to the introduction of key changes within the food market (Ragavan & Mageh, 2013).

2.13.1. The Outcome of Climatic Change Conference

Increased consumers' concern over the safety of the environment in recent years has been fueled further by the heated debate on climate change, for example, the 17th meeting of the Conference of Parties (COP17) in Durban in 2011. Arguably, this internationally recognised and celebrated conference increased particularly South African consumers' awareness about the problem of climate change. This conference sensitized many consumers about their consumption effects on the environment and pushed them for change (CSIR, 2011). Furthermore, it is assumed that this conference may have alerted consumers about the 'harmful effects of conventional farming on the environment in favour of the less-harmful organic farming methods. Owing to this conference, a 'new' consumer anxiety erupted and is bound to create new opportunities and/or challenges for both marketers and policy makers. Moreover, the Durban Platform for Cooperative Action became a new international agreement to lessen greenhouse gas discharges (i.e., to reduce emissions from deforestation and forest degradation) and it is presumed that it will be operational in 2020 (CSIR, 2011). The depiction below shows some of the delegates at the COP17 Durban conference.

Figure 2.11: Delegates at the 17th Durban Conference

Source: COP17/CMP7 (2014)

The significance of environmental concerns stem from the escalating degradation and contamination of the environment, for example, solid wastes, chemical residues, depletion of the ozone layer, air pollution and global warming among others (Eltayeb, Zailani & Jayaraman, 2010). The dreadful conditions from current environmental issues are ever threatening the health and well-being of consumers worldwide. As a result, consumers are becoming more sensitive in their environmental perceptions, consumer attitude and preferences and/or purchase intentions (Sarigollu, 2009). Because consumers have realised the importance of protecting the environment, *environmentalism* has become an essential subject in the marketplace (Werner & Alvensleben, 2011; Ragavan & Mageh, 2013; Pomsanam et al., 2014). Over the years, many consumers have understood that their purchase intentions as manifested in their consumption behaviour, have a direct impact on many environmental problems. Hence, many consumers have begun to develop positive purchase intentions for organic food, owing to the desire to protect the environment (Olivová, 2011).

Apart from this positive link between ecological concerns and consumer purchase intentions for organic food, a number of earlier studies have also shown that individuals with less knowledge about the environment may still display a strong affection to it (Dispoto, 1997; Chan & Lau, 2000). This discovery seems to suggest that individuals are, as expected, more

lovingly and emotionally involved with the environment and this has nothing to do with them being well-informed about it (Chan & Lau, 2000). It may also suggest that relevant effects of knowledge and emotions toward the environment are two discrete variables with a unique effect on both consumers' behavioural intents and responses. Other key findings from previous studies suggest that the level of ecological knowledge amongst South African consumers is generally minimal (Engel, 2008; De Villiers, 1998). Yet in contrast, South African consumers express a positive environmental affect and 'green' purchase intentions (Du Toit & Crafford, 2003), though many of them are still environmentally apathetic.

According to Magkos et al. (2006), it is possible to find environmental contaminants in food from both production systems (i.e., organic and conventional farming), thus discrediting the safety of organic foodstuffs. Likewise, there is no strong and current evidence to support the view that organic produces are less susceptible to bacterial impurities. On another aspect, a study done by Sihombing (2007) showed that the level of buying intention toward environmentally-friendly foodstuffs is generally low amongst many consumers. And so, when related with organic food, ecological motivations explain only a minor portion of organic purchases. On a similar vein, Millock, Wier and Andersen (2004) claimed that consumer attitude on environmental and animal welfare impact consumer purchase intentions for organic food to a lesser extent than the consumer attitude towards health, freshness and taste aspects of organic food. Krystallis and Chryssohoidis (2005) also found that environmental motives impact purchase intentions for organic food to a lesser extent.

Contrariwise, Durham and Andrade (2005) indicated that the key motives that explain organic food purchase intentions are consumers' attitude toward environmental and health attributes, but the former is more influential than the latter. In support of Durham and Andrade (2005)'s finding, Honkanen et al. (2006), from the study of Norwegian consumers, established that attitudes and ecological motives toward organic food had a significant effect on the intention to purchase organic food. As a result, aspects which explain consumer purchase intentions for environment-friendly foodstuffs, particularly organic food, still need to be further explored in order to reach a more conclusive outcome. The following depiction shows that retailers like Woolworths have realised the importance of providing produces that are grown in harmony with nature. If environmentally conscious individuals see this labelling, they are more likely to develop positive purchase intentions toward such foodstuffs.

Figure 2.12: Produces Grown with No Negative Effect on Nature

Source: Woolworths Sandton Store

The next section further explains the notion of environmental degradation and the so-called 'green' revolution.

Environmental Degradation – Consumers' consciousness of ecological ruin has taken a long time to emerge in South Africa. As the environment continues to deteriorate, the South African government started to realise the gravity of the problem. The country has shown its determination to proactively tackle the ecological problems by enacting various anti-pollution laws and criminal codes on environmental offenses (Van der Linder, 2006). The Air Quality Act was set to totally replace the Air Pollution Prevention Act in 2009 (Centre for Environmental Rights, 2014). Through this Act, polluters are now regulated by more stringent atmospheric emission licenses, which are reviewed and tightened every five years. Moreover, the Environmental Impact Assessment is a tool used to address the possible harm that can be triggered by industrial growth to the socio-economic state of the societies (AISA, 2010). This involves assessing environmental impacts, proposing alleviation measures, reporting, revising and making decisions around environmental issues (Van der Linder, 2006). Although a fairly broad amount of environmental laws are in place in South Africa, their real value at implementation level is still ineffective in a bid to fight against environmental degradation.

A 'Green' Revolution – Consumers play an essential role in advancing the country's green revolution initiatives (Chan & Lau, 2000). If consumers display a high degree of ecological concern and align it to their purchasing intentions and actual purchase behaviours along green-related initiatives, it is expected that profit-driven retailers will be intensely stirred to embrace the notion of green marketing in their dealings (Werner & Alvensleben, 2011). Hence, in order to have a full grasp of the environmental movement of South Africa, it is important for the study to examine consumers' ecological views and how these are manifested in their purchase intentions and ultimately their purchasing behaviours. Given the state of environmental apathy in South Africa (as highlighted in DH Environmental Consulting, 2011), with the youth being generally more apathetic and uninterested (National Youth Commission, Undated), calls for the examination of this aspect are necessary to significantly contribute to the broadening of knowledge as well as the expansion of an evidence-based grasp of consumers' conservation ethics, particularly with respect to young adults.

An Objective Scale – In creating an "objective scale" to gauge and comprehend individuals' environmental concern, Maloney and Ward (1973) hypothesized a theory on the account of knowledge (i.e., environmental knowledge) about the extent of emotionality (i.e., environmental affect) toward the level of verbal (i.e., environmental intention) and genuine commitment (i.e., environmental behaviour) to environmental issues. The main assertion from Maloney and Ward (1973)'s conceptualisation was that a person's environmental behaviour is greatly reliant on his/her environmental knowledge, affect and intention. This makes this construct worth further investigation in the current study and the results will be presented at a later stage.

On the whole, based on the above discussion on the foregoing studies, it can be concluded that the more environmentally concerned consumers are, the more likely that they are to have positive purchase intentions toward organic food. In line with this, the current study developed hypotheses on the basis of the insight acquired from the review of earlier studies.

CHAPTER II

LITERATURE REVIEW: PART B

Organic food is usually fresher because it doesn't contain preservatives that makes it last longer ~ Lawrence Robinson (2015)

2.1. The Demographic Portrayal of Consumers

The demographic profile of consumers is one of the most important features that can affect purchase intention for organic food. These variables may play a particular role in shaping consumers' purchase intentions for organic food. According Dettmann and Dimitri (2007), women tend to display positive purchase intentions toward organic food. Age, marital status, ethnicity, educational level, number of children, income level and employment status were also be explored in this study. Other relevant aspects included a description of organic food (from consumers' perspective), their preferred organic retail outlet and general information (e.g. the % of organic food consumers intend to purchase when making their food purchases).

- **The relevance of Gender –** A number of scholars have reported that a greater proportion of women held favourable attitudes and purchase intentions toward organic food as compared to their male counterparts. The effect of gender may depend on different factors, for example, women are more concerned about produces that are directly linked to their quality. This aspect has been found to be more important for women in comparison to men (Ahasanul, Ali & Sabbir, 2006; Safiek, 2009b). Madahi and Sukati, (2012) found that gender (i.e., the female gender) had a positive effect on purchase intention. In addition, a study by Syed (2003) showed that men are more risk takers than women and they rely more on themselves when making their purchase decisions or intentions (Syed, 2003). In addition, as reported by Madahi and Sukati, (2012), gender was a significant predictor of purchase intentions for organic food.
- **Age –** Different age groups are believed to display different purchase intentions toward organic food. An 18 year old consumer is expected to respond differently to organic food compared with a 65 year old consumer. However, within the same age group, there might be differences too; for example, Nabil and Imed (2010) found that the concern for some young consumers is on the labelled produces while other young consumers may not be concerned about food labelling. A study by Madahi and Sukati, (2012) found that younger consumers are more open to experience and care less about prices and consumers between the age ranges of 17-21 were more likely to have positive purchase intentions toward organic food. The same study found that an increase in the age of a consumer reduces the effect of age on purchase intentions for organic food. Therefore, on the basis of age and gender above, literature suggests that younger households and female consumers tend to perceive organic food a more important and are more likely to consider buying organic food when making their

food-related purchases (Govindasamy & Italia, 1990; Van Doorn & Verhoef, 2011).

- **Marital Status –** Marital status is another demographic variable that can help in explaining consumer purchase intentions for organic food. Anderson (2004**)** found that married couples are less likely to consider purchasing organic food. Another interesting feature, that is specific to South Africa is that of **cohabitation**, was also tested. This is one of the flexible types of relationships, and it is much common is the country, owing to the influx of foreign nationals. It would be exciting to find out whether there are any cohabitees who have purchase intentions for organic food.
- **Ethnicity –** An ethnic group analysis may be another relevant demographic variable to consider for the current study. Different ethnic groups tend to act in a different way when developing their purchase intentions. As South Africa is a diverse nation, with many foreign nations adding on to the country's diversity, it is expected that the results of this study will be rich in this aspect – which is a very unique feature of the country's demographic profile. As many people living in Johannesburg are African, it is expected that black ethnic groups will dominate the study's respondent profile.
- **Level of Education –** The level of education is another factor that may shape purchase intention amongst consumers. Consumers with higher levels of education tend to be more interested in buying organic food compared to those with less or no education (Dettmann & Dimitri, 2007). A study done by Chiao and Yang (2010) indicated that females are less knowledgeable when it comes to online purchasing; therefore, they may not have positive purchase intentions toward produces that are advertised and sold online. They tend to depend on other recommendations than men, e.g. WOM when developing their purchase intentions or decisions. Contradictory results were reported by Yin, Wu, Dub and Chena (2010) demonstrated that purchase intention for organic food is slightly influenced by age and education level.
- **Number of Children –** Some studies found that families with children are more inclined to buy organic food (Madahi & Sukati, 2012). Therefore, consumers who may worry about the health of their children are bound to develop positive intentions toward organic food, as such foodstuffs are deemed to be chemical-free.
- **Income Level –** In the demographic description of consumers, disposable income is an additional factor that is considered important in influencing purchase intention of chemically free food (Govindasamy & Italia, 1990). As stated by Dimitri and Dettmann (2012), the purchase intention for organic food is likely to increase when

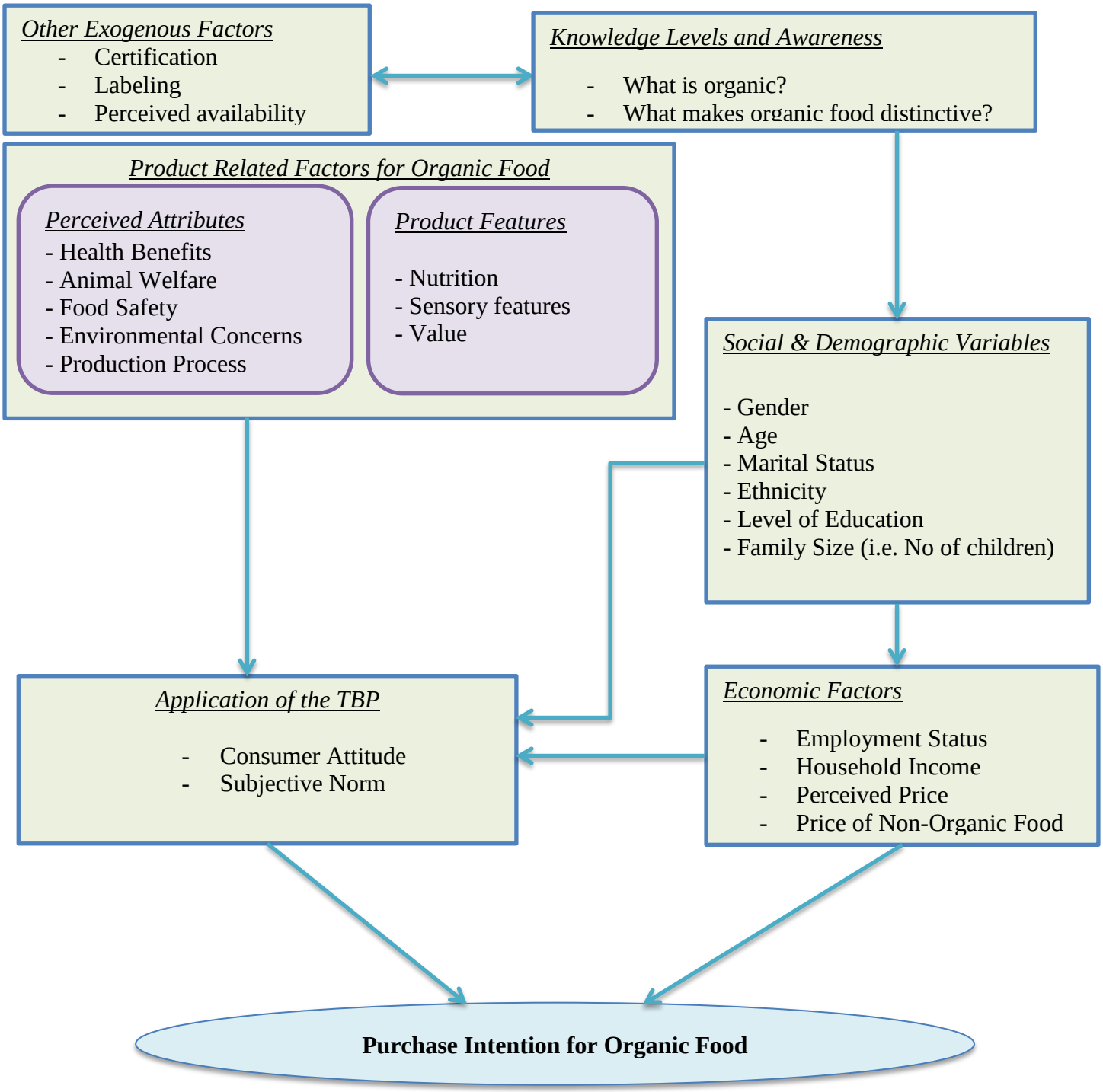
consumers' revenue increase. Consistent with this report is the finding that higher income households tend to have positive purchase intentions for organic produce because they can afford to pay for them (Loureiro, McCluskey & Mittelhammer, 2001). Furthermore, Dettmann and Dimitri (2007) found that females with age ranges of between 30 and 45, with children and having high incomes tend to include organic food in their food purchases. Howie (2004)'s atypical finding revealed that consumers with less disposable income are more likely to consider purchasing organic food. Owing to these contradictory results, this study descriptively tested the effect of demographic characteristics on purchasing intention for organic food.

- **Employment Status –** Linked to income level is employment status. Customers that are either employed part-time or full-time are able to afford organic food and hence can be able to develop positive intentions toward such foodstuffs (Madahi and Sukati, 2012). The advantage with consumers employed permanently is that their revenue is guaranteed and can therefore become loyal, once their positive intentions are translated to actual behaviour.
- **Description of Organic Food –** Consumers were asked to show their level of agreement with the statements that described organic food, for example, "Organic food has a high nutritional value". This data was analysed descriptively and results are displayed in Chapter 5 below.
- **Preferred Organic Food Retail Outlet –** Organic food can be bought in different retail outlets and the place to buy organic produce is critically essential for consumers. For example, a research done by Siti and Nurita (2010) demonstrated that only a few number of consumers enjoy purchasing organic food in farms while the majority of the favour buying chemically free produces from malls and hypermarkets.
- **General Information**
  - *Geography* – The current study was restricted to consumers residing in Johannesburg city. This may have an influence on the findings as the effect of urban than rural has been previously found to have a significant effect on purchase intention (Madahi & Sukati, 2012). This can be as a result of reasons like the fact that the rural consumers are less educated or less aware about the benefits of organic food than urban consumers. The effect of media on urban consumers' decision making and intention can be another reason.

2.2. A Recapitulation of Literature Review

This section will provide a brief recap of the above literature, before moving to the next chapter that presented the conceptual model of this study and discussed how hypotheses were developed. Accordingly, Figure 2.13 helps in providing this recapitulation.

Figure 2.13: A Synthesis of Important Aspects from Literature Review



Source: This Study: Created as a Summary of Literature Review for this Study

The above figure presents a summary of the various antecedents of consumer purchase intention for organic food applicable to this study. Both *exogenous variables* (i.e., consumer attitude, health consciousness, perceived price, perceived availability, labelling, knowledge levels, subjective norms, environmental concerns) and *endogenous variable* (i.e., purchase intention) are presented in the same figure. The TPB was used to guide the current study and the influence of demographic variables was also part of the above discussion. In this paper, the main literature findings were structured in relation to the precursors of the purchase intentions for organic food – within an integrated framework (i.e., the TPB). It is hoped that this structuring of prior the study variables provides a better comprehension of the interactions between the relevant aspects predicting consumers' purchase intention for organic food.

2.16. Chapter Summary

The above chapter has comprehensively discussed the preceding literature on the predictors of consumer purchase intention for organic food. Furthermore, the above section highlighted that the TPB acted as the main framework that guided this study. The study had 8 predictor variables (i.e., consumer attitude, health consciousness, perceived price, perceived availability, labelling, knowledge levels, subjective norms, environmental concerns) which were modeled against 1 dependent variable (i.e., purchase intention). The above section underscored the fact that currently, there is no robust or conclusive scientific evidence to justify the fact that organically grown foodstuffs are healthier, safer or even kinder to the environment (Thalheimer, 2013). Whether the advantage of foodstuffs depends on the implementation of a particular farming technique (which arguably results in different yields) remains a matter of debate. While a number of studies demonstrate some qualitative differences between organic and traditional produces, at this stage it is premature to conclude that one or the other food scheme is superior to the other with regard to nutritional composition, safety or environmental friendliness. This perspective may demonstrate that there are tradeoffs that still exist between conventional and organic food production methods (Butler et al., 2013; Norse & Tschirley, 2003). However, it can be established that choosing to purchase organic food remains a personal judgment. Nonetheless, the technicalities of these perspectives and/or meta-analytic evidence are yet to be examined comprehensively, especially in with reference to South Africa.

CHAPTER III

HYPOTHESIS DEVELOPMENT & HYPOTHESIS STATEMENT

"If you build up the soil with organic material, the plants will do just fine". ― John Harrison

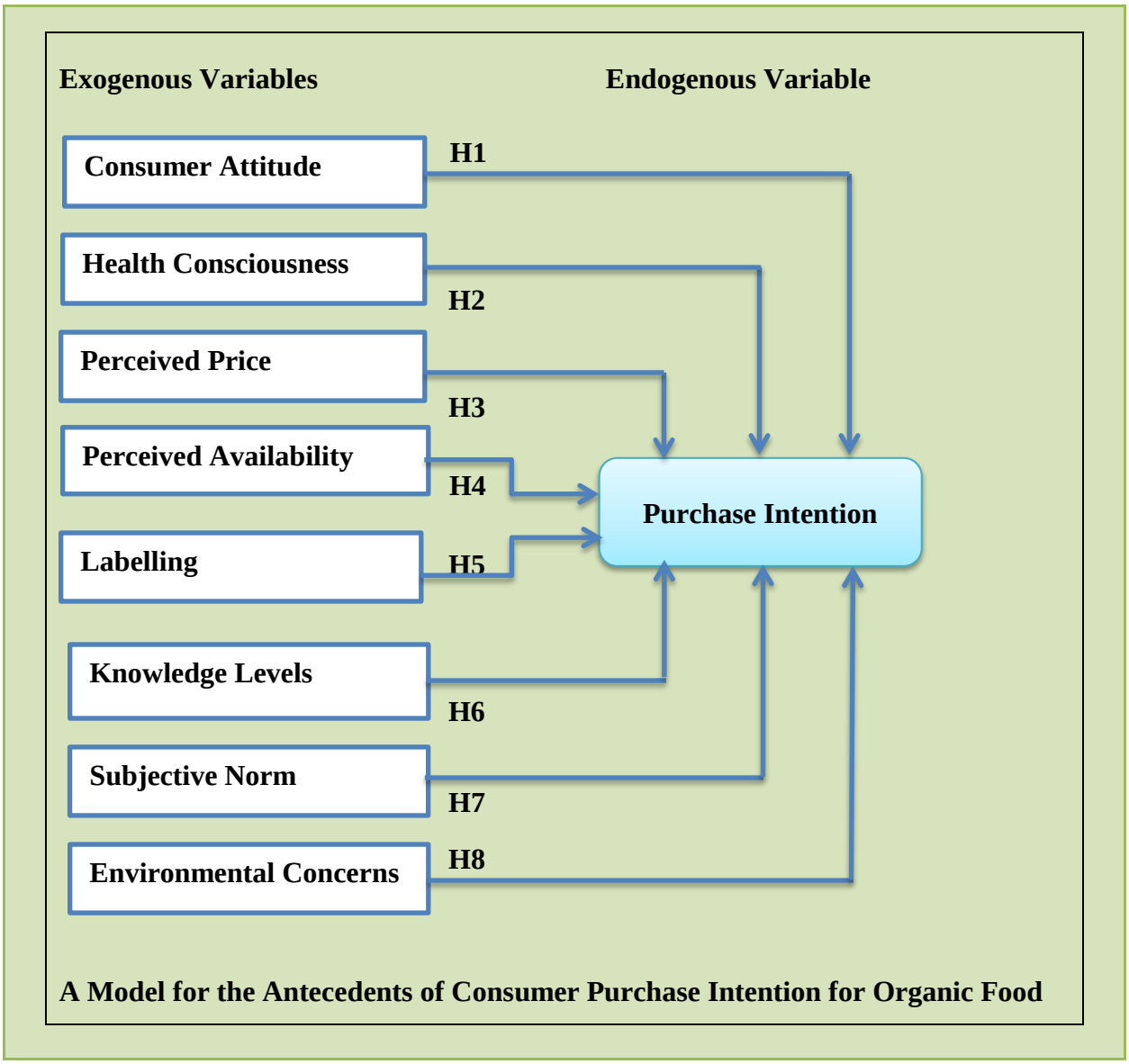
3.0. Introduction

This section provides a brief account of how hypotheses for the current study were developed and thereafter, all the hypotheses that were tested in this study were stated. Hypotheses development and statement was done after devising a conceptual model on the basis of the theoretical and empirical review of foregoing studies, as detailed in Chapter 2. Therefore, consistent with the research objectives, research questions, the literature review and as well as the TPB, the conceptual model had 8 independent variables (i.e., consumer attitude, health consciousness, perceived price, perceived availability, labelling, knowledge levels, subjective norms, environmental concerns) which were modeled against 1 dependent variable (i.e., purchase intention). Conceivably, it was assumed that the exogenous (or predictor) variables were subsequently going to predict consumers' purchase intention for organic food. As per Figure 3.1, no mediator variables were conceptualised in the current study, hence only direct causal effects were assumed between the predictor variables and the outcome variable. A detailed account of the posited associations between these variables is provided in the following section on hypotheses development and statement.

3.1. Conceptual Model

In order to statistically test the associations between the study constructs, a conceptual model, as depicted in depicted in Figure 3.1 below, was developed drawing from the research objectives, research questions, literature review on the antecedents of consumer purchase intention for organic food, and it was also premised on the TPB. Accordingly, the figure below is a representation of conceptual model for the current study.

Figure 3.1: The Conceptual Model



Note: In order to test the statistical significance of the variables, the alpha value was determined by p-values, in form of stars (where * represented 99% level of significance, ** represented 95% level of significance, * represented 90% level of significance and no star represented the fact that the relationship was statistically insignificant). This will become more relevant under hypothesis testing.*

3.2. Hypothesis Development

3.2.1. Consumer Attitude and Purchase Intention

Mounting empirical evidence demonstrate that consumer attitude play a prominent role in shaping consumer purchase intentions for organic food (Chen, 2007; Magnusson et al., 2001; Olivová, 2011; Smith & Paladino, 2010). Further evidence derived from the conventional wisdom found that an attitude toward a specific activity is likely to give rise to a stronger intention to perform that behaviour (Fishbein & Ajzen, 1975). Moreover, a lot of studies have validated a positive attitude–intention relationship (Chen, 2007; Magnusson et al., 2001; Smith & Paladino, 2010 Werner & Alvensleben, 2011; Tarkiainen & Sundqvist, 2005), although with contrasting results. A positive relationship was also found by Squires et al. (2001). Additionally, Honkanen et al. (2006) found a statistically significant and positive relationship between consumer attitude and purchase intention for organic food.

On the contrary, Magnusson et al. (2001) found that consumers' positive attitude did not result in purchase intention, showing a discrepancy between having positive consumer attitude and the resulting intentions. Moreover, Tung et al. (2012) reported that there is attitudinal inconsistency or attitudinal ambivalence when shoppers plan to purchase organic food. This indecision may ultimately drive negative purchase intentions for organic food. Consistent with the findings from a study done by Chen (2007), a moderate correlation was found between consumer attitude and consumer purchase intentions for organic food. A moderate, but statistically significant association was also supported by Padel and Foster (2005). However, Pomsanam et al. (2014) established that there was no statistical support for the proposition that consumer attitude influence organic food purchase intentions.

Drawing from the preceding theoretical discussion and also in line with the empirical evidence on the attitude-intention relationship, this study hypothesised that:

> *H1: There is a positive relationship between consumer attitude and consumer purchase intention for organic food*

3.2.2. Health Consciousness and Purchase Intention

Organic food is consistently viewed as healthier than conventional alternatives (Magnusson et al., 2001; Lea & Worsley, 2005; Radman, 2005). It stands to reason that if consumers

derive health-related benefits from organic food, they are bound to develop positive purchase intention for such produces. A considerable number of previous studies generally confirm a positive correlation between health consciousness and consumer purchase intention for organic food (Pollard et al., 2002; Harper & Makatouni, 2002; Shepherd, Magnusson & Sjoden, 2005; Zandstra et al. 2001). Notwithstanding the general belief regarding a positive relationship between heath consciousness and purchase intention for organic food, other research outcomes do not support this position. For example, Kristensen and Grunert (1991) found that health consciousness was not a significant antecedent of purchase intention for organic food and may not be adequate in predicting purchase intention. Similarly, Lockie et al. (2004) concurred with Kristensen and Grunert (1991) they reported in their findings that although the relationship between health consciousness and purchase intention for organic food does exists, such a relationship was found to be statistically insignificant. This finding seemed counter-intuitive from the outset and was seen as a direct challenge to the widely held view that health consciousness significantly impacted purchase intention for organic food. On the whole, the vast majority of foregoing studies seem to demonstrate that health consciousness is a powerful predictor of consumer purchase intention for organic food (Chinnici et al., 2002; Hutchins & Greenhalgh, 1995; Huang, 1996; Schifferstein & Ophuis, 1998; Tregear et al., 1994; Zanoli & Naspetti, 2002).

Despite the dominance of this construct, and the fact that it explains the most variance, this variable alone is an inadequate in predicting consumer purchase intentions for organic food (Sakthirama et al., 2013). This study similarly submits that even though health conscious consumers may invariably be more likely to be motivated to purchase healthier foodstuffs (Quah, & Tan, 2009); this probability is remains debatable owing to the contradictory results that have been reported by other researchers.

Consequently, drawing from the above discussion and past empirical evidence, the current study hypothesises that:

> *H2: There is a significant positive relationship between health consciousness and consumer purchase intention for organic food*

3.2.3. Perceived Price and Purchase Intention

Pricing is a significant variable that can be used to predict consumer purchase intentions for organic. Consistent with Magnusson et al. (2001)'s claim, organic produces are charged at a slightly higher price. This has been deemed the greatest cause of consumers' failure to develop positive purchase intentions toward organic foodstuffs (Magnusson et al., 2001; Al-Sabbahy et al., 2004). The 'affordability issue' most often comes up and price sensitive consumers may fail to develop positive purchase intentions toward organic food due to the fact that they simply cannot afford to buy them (Shepherd et al., 1996). Further research suggests that consumers tend have positive purchase intentions for the produces that they can derive value for their money (Padel & Foster, 2005). Interestingly, Lockie et al. (2002) stated that the price cue is often in conflict with other drives, for example, environmental concern – a consumer may be willing to show that they care about the environment, but price premium may discourage them from developing positive purchase intentions for organic food (Effendi, Ginting, Lubis & Fachruddin, 2015; Gan, Wee, Ozanne & Kao, 2008).

Noteworthy, premium pricing for organic food does not always lead to negative purchase intentions. Evidence exists to support the notion that a number of consumers tend to use price as a sign to indicate higher product quality. Consumers can use the price cue to differentiate whether the produce is organic or conventional. However, it is counter-intuitive for organic food to be priced lower or the same as conventional food (Byrne, Toensmeyer, German & Muller, 1991). It can thus be expected that higher prices may positively influence purchase likelihoods for organic food (Lichtenstein et al., 1988; Erickson & Johansson, 1985; Zeithaml, 1988; Tellis & Gaeth, 1990). Pricing can thus have two functions and this dual was modeled by Erickson and Johansson (1985) where price had a direct negative effect on purchase intentions while at the same time it can also had an indirect positive effect on purchase intentions when using perceptions on product quality. Therefore, price can play a negative or positive role in influencing consumers' purchase intention for organic food.

Based on the fact that organic food is frequently priced higher than conventional food and also premised on the fact that a higher price raises the 'affordability issue', which ultimately results in a negative effect on price sensitive consumer, the current study hypothesised that:

> *H3: There is a negative relationship between perceived price and consumer purchase intention for organic food*

3.2.4. Perceived Availability and Purchase Intention

Perceived availability of organic food is an important variable due to the fact that it may also predict consumers' purchase intention for organic food. As stated by Saunders (1999) and Thompson (2000), perceived availability is the main purchasing criteria, as if consumers 'waste' their time and effort trying to find organic food, their purchase intentions may end up being negatively affected. In contrast, other studies have found that limited perceived availability is not a key impediment to positive purchase intentions (Magnusson et al., 2001). Research further suggests that consumers do not switch to organic food owing to availability reasons (Gofton, 1995; Brunsø et al., 2002). Actually, Tarkiainen and Sundqvist (2005) found that the perceived availability of organic foodstuffs has no influence on consumer's intention to purchase such produces.

For the most part, perceived availability of organic food can play a role in shaping positive purchase intentions for organic food, while the reverse may hold for unavailability (Olivová, 2011). Drawing from the reviewed literature (though there appears to be no unanimity on the direction of causality), and the above discussion, the current study hypothesised that:

> *H4: There is a positive relationship between perceived availability and consumer purchase intention for organic food*

3.2.5. Labelling

A growing number of studies seem to suggest that distinctive and clear labelling is an imperative condition for marketers in order for them to trigger lasting positive consumer purchase intentions for organic food (Hack, 1995; Trijp et al., 1997; Sylvander, 1995). There have been a few studies supporting the notion that many consumers may have very limited knowledge about the meaning of these labels (for example, Bellows & Onyango, 2008). Furthermore, it has been repeatedly demonstrated in previous empirical studies that it may be beneficial for labels to be visually and verbally appealing to consumers (Baik et al., 2011; Olivová, 2011; Tang et al., 2004). Moreover, Brom (2000) highlighted the fact that the increasing concerns about food safety depict that consumers are losing trust on the safety of foodstuffs. Essoussi and Zahaf (2009) stated that organic foods produced within one's country are more trusted (for example, Woolworth's love local food collection) than that which is traded in.

Consistent with Teisl and Roe (2005), credible labels have a positive effect on purchase intention or product choice. Research further suggests that consumers develop positive purchase intentions when the foodstuffs are bought directly from farmers, unlike when they are found in supermarkets, with organic tags or labels (Sirieix & Schaer, 2005). Consumers' distrust that the produce promoted with organic food labels is truly organic is likely to create a huge negative impact for any intention to purchase such foods (Aarset et al., 2004). Despite the arguments raised from the above discussion, it is still unclear whether labelling may plays a significant role, especially to consumers that are not familiar with the label. Based on the above discussion and literature review on labelling, this study hypothesised that:

H5: There is a positive relationship between labelling and consumer purchase intention for organic food

3.2.6. Knowledge Levels and Purchase Intention

Extensive research endeavours on the relationship between knowledge levels and consumer purchase intention for chemically-free foodstuffs evinces that such a relationship does exist and is positive (Magnusson et al., 2001; Leire & Thidell (2004); Lodorfos & Dennis, 2008; Lucas & Röhrich, 2008; Gracia, De Magistris & Barreiro-Hurlé, 2010). In general, it has been long-established that consumers with higher educational levels are more likely to consider buying healthier foodstuffs due to the fact that they are more well-informed and have greater consciousness of their sustainability (Cranfield & Magnusson, 2003; Loureiro & Hine, 2002; Rodriguez at al., 2006). Lockie et al. (2002) found that although consumers may express favourable purchase intentions toward organic food, they can still be skeptical of the assertions made about such produces. On the contrary, other researchers found an inverse association between education and willingness to pay for organic foods (Misra et al., 1991; Malone, 1990). Moreover, a notable study by Govindasamy and Italia (1999) documented an inverse relationship between consumers' knowledge levels and their purchase intentions for organic food. Consumers' failure to develop positive purchase intentions for organic food can be due to the lack of knowledge and/or lack of detailed information such that they are unable to clearly distinguish the unique features of organic from conventionally grown alternatives (Yiridoe et al., 2005). In contrast, knowledge may affect consumers' trust in new organic produce, with lack of new knowledge bound to create low trust levels (Aertsens et al., 2011).

On the whole, it can be argued that when consumers have higher knowledge levels about organic food, they are more likely to develop positive intentions towards chemically-free produces. Drawing from the above discussion and literature review on knowledge levels, this study hypothesised that:

> *H6: There is a positive relationship between knowledge levels and consumer purchase intention for organic food*

3.2.7. Subjective Norm and Purchase Intention

The relationship between subjective norm and purchase intention has been extensively researched in marketing literature (for example, Ajzen, 1991; 2006; Gotschi et al., 2007; Pomsanam et al., 2014; Smith & Paladino, 2010; Tarkiainen & Sundqvist, 2005). The relevance of subjective norm has been widely critiqued in theory, but may scholars have frequently found it to be the weakest predictor of intention (Holst & Iversen, 2011; Bagozzi, 1992; Armitage & Conner, 1998; 2001). When applied to the organic food context, a significant positive relationship was found between subjective norm and purchase intention (Chen, 2007; Dean et al., 2008; Thøgersen, 2007b). Inversely, Pomsanam et al. (2014) found that subjective norms had a minor effect on Thai-Cambodian consumers' purchase intentions for organic food. Other studies have underscored the cross-over effect of subjective norm to influence other variables. For example, Oliver and Bearden (1985) demonstrated that subjective norm has an effect on consumer attitude. This finding was reinforced by Tarkiainen and Sundqvist (2005) who found that positive consumer attitudes conveyed toward a certain product or produce have an effect on attitude formation for the people at close proximity. Interestingly, the analyses on the application of Ajzen (1991)'s TPB by Armitage and Conner (2001) alongside Bamberg and Moser (2007) suggested that subjective norm frequently exerts no direct influence on intention.

As a result, when making an allowance for all preceding findings, a minor but positive influence of this predictor variable was expected in this study. Hence, the current study hypothesised that:

> *H7: There is a positive relationship between subjective norm and consumer purchase intention for organic food*

3.2.8. Environmental Concerns and Purchase Intention

Foregoing studies have underscored the significance of environmental concerns as a predictor of consumer purchase intention for organic food. Owing to the dreadful environmental issues that frequently affect the health of human beings, consumers are starting to develop positive purchase intentions to farming techniques that are purported to be in harmony with nature (Sarigollu, 2009). Undoubtedly, a positive link has been established between ecological concerns and consumer purchase intentions for organic food (Werner & Alvensleben, 2011; Sarigollu, 2009; Ragavan & Mageh, 2013; Pomsanam et al., 2014). Moreover, Honkanen et al. (2006) supported Durham and Andrade (2005)'s finding that consumer attitude and ecological motives toward organic food have a significant positive effect on the intention to purchase organic food. In addition, a number of earlier studies have also shown that people with less knowledge about the environment may still display a strong affection to it (Dispoto, 1997; Chan & Lau, 2000). Other key findings from previous research suggest that the level of ecological knowledge amongst South African consumers is generally minimal, and many younger consumers have remained apathetic or uninterested in issues that relate to environmental protection (Engel, 2008; National Youth Commission, Undated). Yet in contrast, other South African consumers, particularly older and educated ones, tend to express more positive environmental affect and 'green' purchase intentions (Du Toit & Crafford, 2003). Contrariwise, a study conducted by Sihombing (2007) established that the level of buying intention toward environmentally-friendly foodstuffs is generally low. On a similar vein, Millock et al. (2004) as well as Krystallis and Chryssohoidis (2005) also found that environmental motives influenced purchase intentions for organic food to a lesser extent.

Deducing from the above discussion and empirical backing, it can be concluded that the more environmentally concerned consumers are, the more likely that they are bound to develop or have positive purchase intentions toward organic food. Thus, it was hypothesised that:

> *H8: There is a positive relationship environmental concerns and consumer purchase intention for organic food*

3.3. Chapter Summary

This chapter presented the conceptual model for the current study and it was exposed that this study had 8 predictor variables which were modeled against one outcome variable. After the presentation of the model, the study went on to develop the hypotheses, based on the conceptual model. The development of each hypothesis (guided by the literature review) was followed by hypothesis statement. This iterative process was done until all the hypotheses were developed and stated. The succeeding section provides a detailed account of the design and methodology used in the current study.

CHAPTER IV

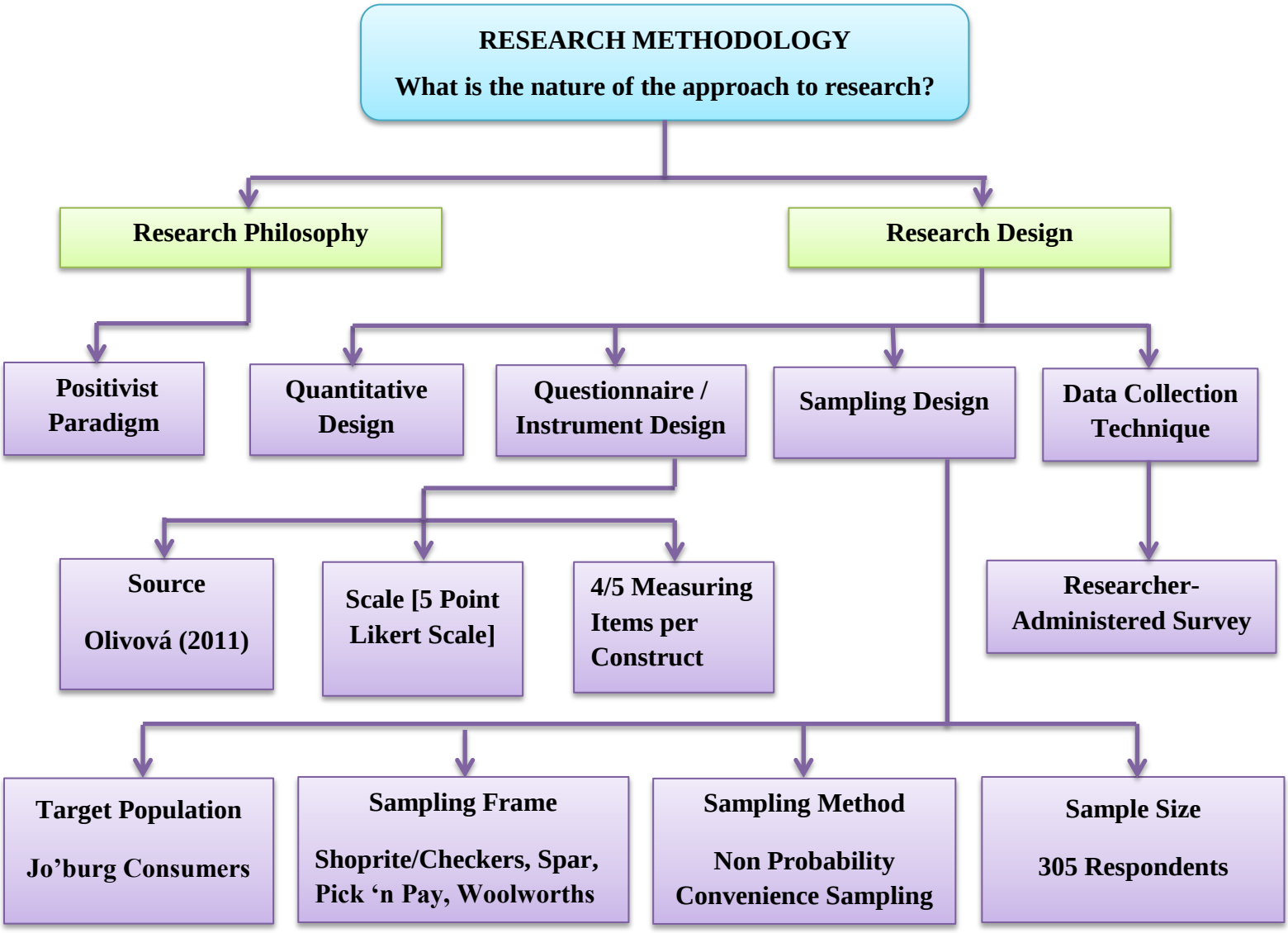
RESEARCH DESIGN & METHODOLOGY

"Every time you buy organic, you're persuading more farmers to grow organic" – Mother Earth News

4.0. Introduction

In the less explored context of determining the predictors of consumer purchase intention for organic food, the researcher faced a huge challenge of choosing an appropriate philosophy and design for the current study. After a careful analysis of the aims of the study and the available methods, this study ended up replicating a deductive approach, which is positivistic in nature. As it is typical for any deductive study, theoretical hypotheses were developed and will be tested at a later stage. This section provides a detailed discussion on the research philosophy and research design – the two main aspects of the research methodology. The overall methodology of the current study is represented in Figure 4.1 below.

Figure 4.1: A Graphical Representation of the Methodology of the Study



**NB: Jo' burg = Johannesburg* *Source: This Study*

Figure 4.1 above is a graphic depiction of the overall methodology for this study. It demonstrates that there are two aspects underlying the research methodology – research philosophy and research design. Methodology is a "combination of techniques used to enquire into a specific situation" (Easterby-Smith, Thorpe & Lowe, 2004:31). It is about choosing from hypothetico-deductive, inductive and/or co-operative inquiry approaches. Moreover, it plays a significant role in research to ensure that the research aims show some signs of credibility (Ates, 2008). A research philosophy is a useful tool in helping the researcher clarify and make proper choices of the research design. When there is lack of consideration of the research's philosophical nature, the quality of the findings may be seriously affected (Ates, 2008). This study used a hypothetico-deductive methodology which is generally applied within a positivist research paradigm. Therefore, this study used a quantitative research design. Furthermore, this research design was divided into three classifications – questionnaire design, sampling design and data collection technique. In terms of the questionnaire design, the constructs and instruments were mainly adapted from Olivová (2011) and there were 4 or 5 measuring items per construct. The major research constructs were operationalised through the use of a 5 point scale (with 1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree).

The sampling design shows that the study participants were drawn from Johannesburg consumers who shop at selected stores – Woolworths, Pick 'n Pay, Shoprite/Checkers and Spar (i.e., the sampling frame). Non-probability convenience sampling technique was employed in deriving a sample size of 305 respondents. Convenience sampling through a mall-intercept approach was considered as the most suitable technique for the current study given the fact that respondents were approached while they were doing their shopping or when they were leaving the organic food retail outlets. A researcher-administered survey questionnaire was preferred as the data collection technique because with a deductive study, a researcher is perceived as distinct from the study and can barely prejudice the responses of respondents. Undeniably, there was a possibility that the data collection technique could have brought along with it some potential biases. In order to diminish this likely bias, respondents were asked to express their opinions *honestly* when completing the questionnaire and they were guaranteed that their responses were to be analysed and presented on a collective basis. The following section provides a thorough account of the research methodology depicted in Figure 4.1 above.

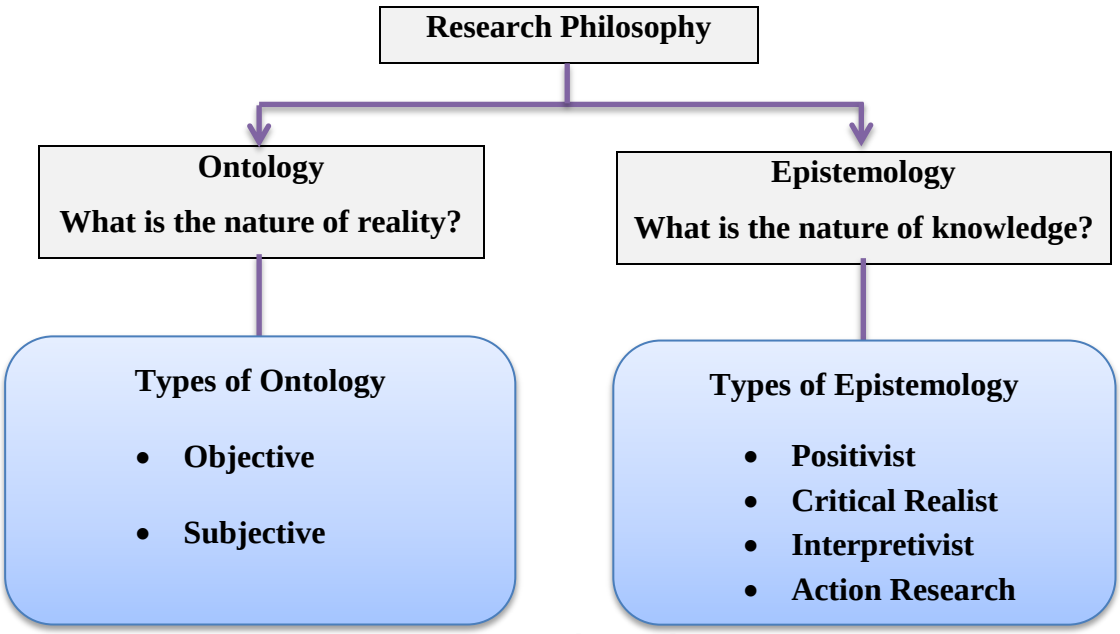
4.1. Research Philosophy

There are a lot of approaches available to individuals when conducting a research. The way a researcher comprehend and construe reality may perhaps impact the research process followed. As a result, this may affect the results and conclusions. Therefore, the available philosophical assumptions assist researchers in choosing the correct research techniques and strategies. Easterby-Smith et al. (2004) highlighted some of the benefits of knowing different philosophical paradigms:

- The research design process becomes more clearer
- The researcher becomes more capable of predicting which research design may work and which one may not, given the study objectives
- It helps the researcher to identify and generate research designs that may be unknown
- Also, it aids the investigator in developing a research identity.

Meredith, Raturi, Amoako-Gyampah & Kaplan (1989) highlighted two dimensions that provide the main condition for philosophical modeling of a research, particularly in the management field. The existential or rational dimension defines whether there is only one reality that is distinct from the researcher or this reality socially constructed and subjective. These approaches can be described through 4 main dimensions – methodology, ontology, epistemology and method or techniques. The following figure helps in synthesizing all the four main dimensions.

Figure 4.2: Graphical Demonstration of the Research Philosophy

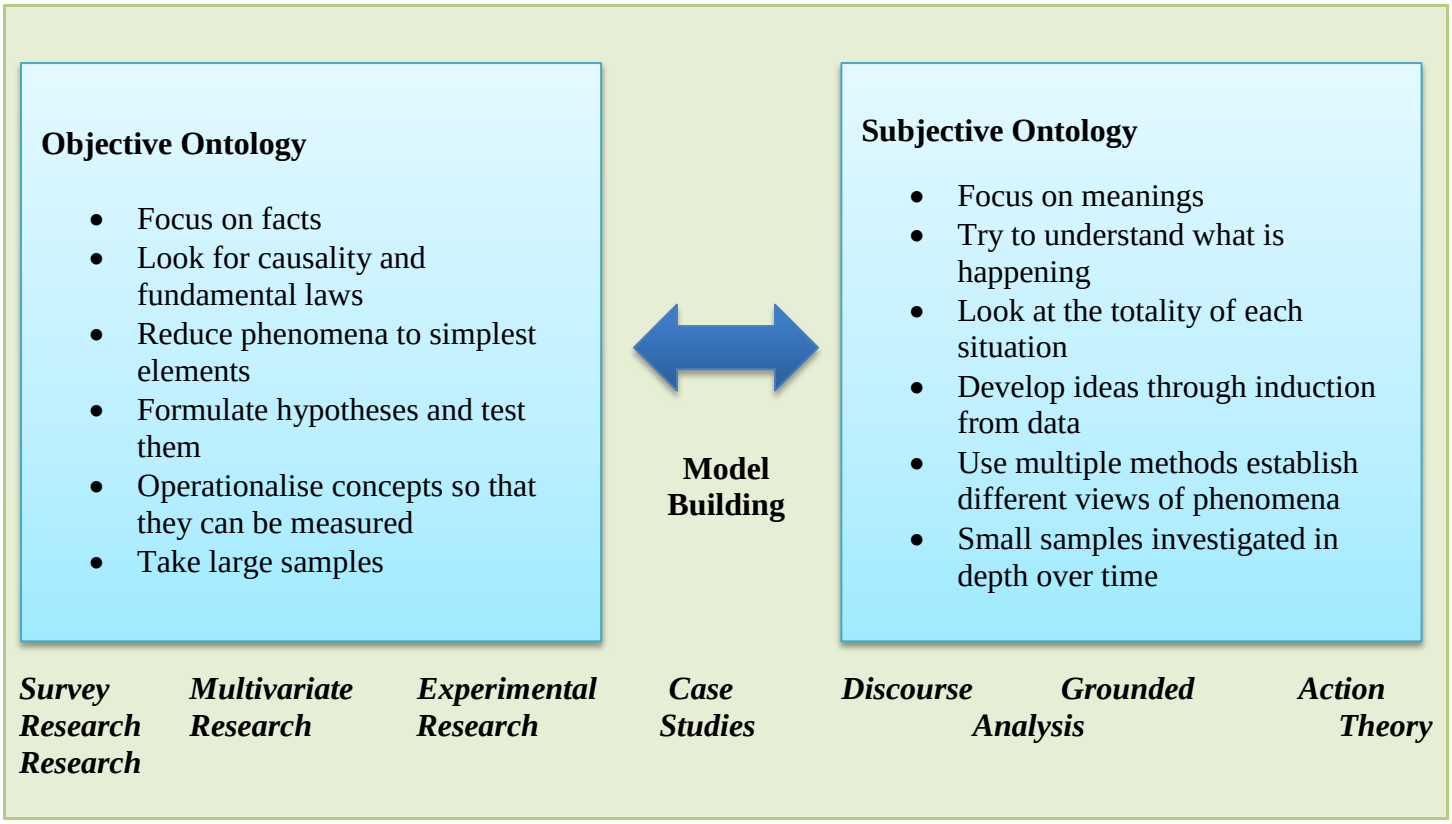


Source: This Study

4.1.1. Ontology

Ontology describes an individual's view (either claims or assumptions) about the nature of truth or reality, and precisely – an objective reality that truly exists, or only a subjective reality, shaped in individuals' minds (Easterby-Smith et al., 2004; Hatch & Cunliffe, 2006; Flowers, 2009). Accordingly, each individual has a number of deeply ingrained ontological assumptions which invariably influence their views on what is true. This can be attributable to the presence of a set of things and the absence of others (Flowers, 2009). When these underlying assumptions are not well-defined and reflected upon, the researcher may possibly draw biased conclusions on specific facets of the study or a particular phenomenon, owing to the fact that such assumptions are implicitly **expected** and taken for granted. Having pre-conceived notions may defeat the whole purpose of conducting a research. Consequently, such 'expected' assumptions tend to be unopened for consideration, criticism and/or discussion (Flowers, 2009). According to Beech (2005), Easterby-Smith et al. (2004) and Scholarios (2005), the two main ontologies can be represented as follows:

Figure 4.3: The Selection of Research Methods Linked to Ontology



Source: Beech (2005)

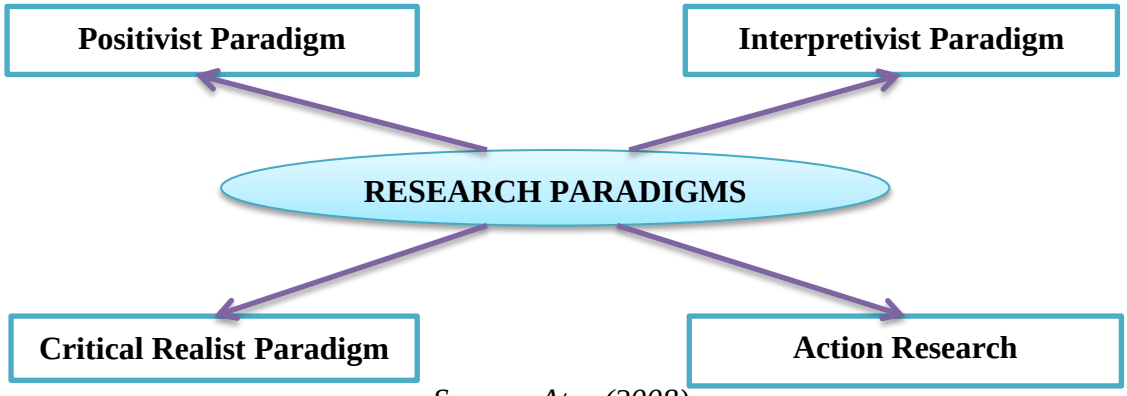
Figure 4.3 above is a portrayal of the differences between the two ontologies, as posited by Beech (2005) and others. In line with the same figure, the current study adopted an *objective* ontological perspective. This is because this study focused on facts, causality, followed some specific laws (e.g. the thresholds to be met under reliability and validity), applied the principle of reductionism (e.g., data coding on Excel), concepts were operationalised and later measured and conclusions were drawn from a large sample of 305 respondents.

4.1.2. Epistemology

Epistemology is about a general set of assumptions regarding the most appropriate way of investigating the nature reality in the world (Easterby-Smith et al., 2008). This feature also considers 'what knowledge is and highlights the sources and limits of knowledge' (Eriksson & Kovalainen, 2008:57). Furthermore, the same aspect has been viewed by Blaikie (1993:89) as 'the theory or science of the method or grounds of knowledge' growing this into a set of assumptions concerning the methods that are likely to improve knowledge about reality (Flowers, 2009). The specific ontological assumptions that can be held by an individual may perhaps affect the resulting epistemological conclusions (Flowers, 2009). For this reason, just as with ontology, together objective and subjective epistemological assumptions exist.

The data collected from objects that are distinct to the investigator (i.e., an external reality) is exposed, to a lesser extent, to the researcher's preconceived notion. For this reason, as the current study used a survey questionnaire, the researcher became distinct from objects. This provided the possibility of getting more objective results (Beech, 2005). As a result, such data is for this study was deemed to have resulted in objective epistemology, which is consistent with the positivist research paradigm. The figure below depicts the four research paradigms.

Figure 4.4: A Depiction of the Research Paradigms



Source: Ates (2008)

The following section endeavours to define the unique features of each paradigm, though the main focus for this study lay on the positivist paradigm. Paradigm in this context is a theoretical framework, through which this research was directed (Beech, 2005). The table below provides a summary of the differences between the key paradigms:

Table 4.1: Differences between the Research Paradigms

Elements	Positivism	Critical Realism	Interpretivism
Truth	Is determined through verification of predictions	Requires consensus between different viewpoints	Depends on who establishes it
Facts	Concrete	Concrete but cannot be accessed directly	All human creations
Aims	Discovery	Exposure	Invention
Starting Points	Formulation of explicit hypotheses which guide research	Suppositions/ Research Questions	Meanings/ Research questions
Research Position (Goal Investigation)	Prescriptive, causal, theory confirming, deductive, ungrounded	Exploratory, descriptive, theory building, inductive, analytical	Descriptive
Direction of research inquiry	Measurement and analysis of causal relationships between variables that are generalisable across contexts	Development of idiographic knowledge based social experiences such as human ideas, beliefs, perceptions, values etc.	Development of idiographic knowledge based social experiences such as human ideas, beliefs, perceptions, values etc.
Designs	Experiment, survey	Triangulation, case study, convergent interviewing	Reflexivity, interviews, participant observation
Methodology	Outcome oriented, verification oriented	Process oriented, discovery oriented	Observation, process oriented
Techniques	Measurement	Survey	Conversation
Sample Size	Large	Small	Very small
Data collection	Structured	Semi-structured, Unstructured	Unstructured
Hardware and software	Questionnaires, statistical software programs	Tape recorders, interview guides, transcripts, qualitative software programs, visual methods	Tape recorders, interview guides, transcripts, qualitative software programs, visual methods
Type of data gathered	Replicable, discrete elements, statistical	Information-rich, contextual, non-statistical	Information-rich, contextual, non-statistical, somewhat subjective reality
Interview questions	Mainly closed with limited probing	Open with probing	Very open
Interaction of interviewer and phenomenon	Independent and value-free, a one way mirror	Mutually interactive but controlled by triangulating data, an open window	Passionate participant, transformative intellectual

Respondents' perspective	Emphasis on outsider's perspective and being distanced from data	Emphasis on the insider's Perspective	Emphasis on outsider's perspective and being distanced from data
Information per respondent	Varies (specific to question)	Extensive (broader question)	Extensive
Analysis/ Interpretation	Verification/ Falsification	Probability	Sense-making
Type of data Analysis	Objective, value-free, statistical methods	Non-statistical, triangulation	Value-loaded, non-statistical
Causality	Cause-effect relations	Causal tendencies, generative mechanisms	Not addressed
Outcomes	Causality	Correlation	Understanding
Judgement of research quality	External validity and reliability are critical	Construct validity is important	Credibility, transferability, dependability, and confirmability

Source: Denzin & Lincoln (2000); Easterby-Smith et al. (2004)

The above table summarizes the major differences between positivist, critical realist and interpretivist paradigms with regards to the nature of truth and the general approach to conducting research. From the above table, it appears as if there is a great polarisation between the epistemologies of pure positivism and pure interpretivist while critical realist epistemology depicts a medium view. The next section will focus on explaining the positivist paradigm, which is consistent with the current study.

4.1.3. Positivist Paradigm

The positivist paradigm stems from natural science and hypothesis testing through the quantification of apparent social realities is their main characteristics. This feature makes positivist epistemology to be deductive in nature (Flowers, 2009). This perspective claims that the world exists externally and objectively, that knowledge is functional only if it is constructed from accounts of this external realism. It also assumes that universal laws do exist in real world (Bryman, 2004). Essentially, positivism is grounded on values of reason, truth and validity. It also places a lot of emphasis on facts that can be evaluated empirically through the utilisation of quantitative methods – experiments and surveys designs, from which the gathered data gets analysed statistically (Blaikie, 1993; Hatch & Cunliffe, 2006; Saunders, Lewis & Thornhill, 2007; Easterby-Smith et al., 2008; Eriksson & Kovalainen, 2008). In addition, this perspective advocates that it is possible to formulate models that are generalisable (Ates, 2008). Such models can effectively explain cause and effect associations, and can be useful in forecasting outcomes.

The research problem was scrutinised to determine whether or not the theoretically derived hypotheses appeared to be true for the tested circumstances as suggested by Saunders et al. (2007). Consistent with Saunders et al. (2007), the justification of this study was:

(i) To test the relationship between the variables in the research model (i.e., positivist methodology to data analysis), on the basis of Ajzen's TPB.

(ii) To consider the objectivity of the chosen approach (i.e., positivist approach) by seeking to realize scientific rigor through determining the reliability and validity of the instruments used for the research constructs

The following table (an addition to Table 4.1 above) shows some of the basic principles of the positivist paradigm, together with some assumptions.

Table 4.2: A Synthesis of Features of the Positivist Paradigm

Basic Principles	Positivist Paradigm
View of the world	The world is external and objective
Involvement of researcher	The researcher is independent
Researcher's influence	Research is value-free
Assumptions	
What is observed	Objective, often quantitative, facts
How is knowledge developed?	Reducing phenomena to simple elements representing general laws

Source: Blumberg, Cooper & Schindler (2008)

Briefly stated, positivist epistemology has the following features as pointed out by Easterby-Smith et al. (2004) as well as Scholario (2005):

- Independence – The researcher is independent of what is being researched
- Value-free and scientific – The choice of subject and method can be made objectively, not based on one's interests or beliefs
- Hypothetico-deductive – Hypothesise a law and deduce what kinds of observations will demonstrate its truth or falsity
- Large samples are required – Preferably above 300 responses
- Empirical operationalization – Usually quantitative
- Application of the principles of probability
- Reductionism – Break problems down into their smallest element
- Generalisation – Sufficient samples should be selected in order to generalise to a population

4.1.4. Justification: Why a Philosophical Underpinning is Important for a Study

It stands to reason that the choice of research methods is closely linked to the study's philosophical position. Previous studies have identified a dual effect of a philosophical review (Holden & Lynch, 2004; Hughes & Sharrock, 1997).

- It may perhaps open a researcher's mind to other prospects, as a result, enhancing the researcher's abilities, and
- It can boost the researcher's confidence on the suitability of the chosen methodology to the research problem which, ultimately, increases confidence in the findings of the study.

Additionally, if the research methodology is incorrectly matched with the research problem, this may give rise to questionable results. By and large, the research philosophy helps a researcher in answering the vital questions of, "How to research?"; "What to research?" and this further provides an answer as to "Why research?"

In light of the discussion above, this study employed an objective ontology, which is consistent with a positivist paradigm and a *quantitative* methodology. However, it is worth noting that in practice, it may be hard for a researcher to follow a pure account of objectivist paradigm (Ates, 2008).

4.2. Research Design

Research design is "a master plan that specifies the methods and procedures for collecting and analysing the needed information" (Zikmund, Babin, Carr & Griffin, 2010:66). Alternatively, research design can be viewed as "a set of guidelines and instructions to be followed when addressing a research problem" and/or "a strategy, a plan, and a detailed structure or outline of how the research project will be conducted" [Mouton, (1996:107) and Carriger, (2000:87) respectively]. It is a sub-section of the methodology and includes a conceptual structure or techniques within which the study is to be conducted. Also, it outlines the instruments to be used (for instance, measurement items, measurement scale and the source (if such instruments were adapted)). Moreover, it spells out how these instruments are to be used (i.e. the data collection method) together with the corresponding statistical analysis and software (Chinomona, 2012). According to Mouton and Marais (1994), the objective of a research design is to explain in simple terms how the research problem is to be addressed

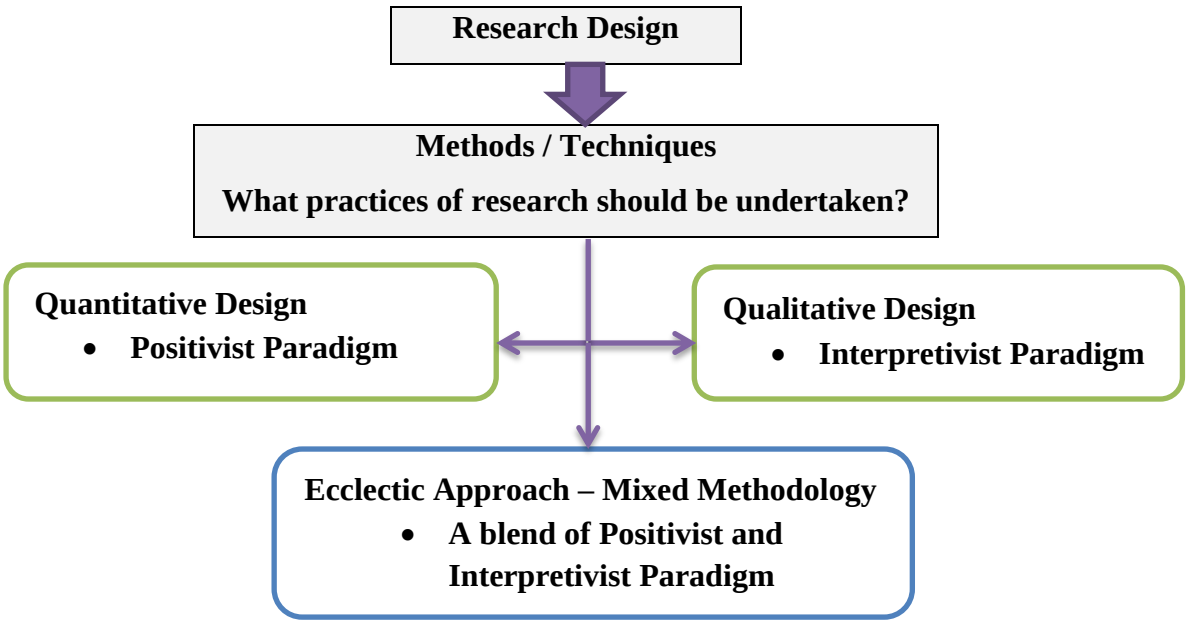
and how the research aims are to be achieved, while taking noting the study's limitations.

Adequate knowledge about research design heightens the value of a study, and this may help in clearly explaining the underlying principle or foundation for the research project plan. Accordingly, a research design endeavours to answer these questions - is the research design dependable, feasible and sensibly spelt out, in other words – is it logical? Therefore, both deductive and inductive reasoning (i.e., logic) in addition to common sense are indispensible for an effective management of the full research effort (Carriger, 2000). Furthermore, research design must be executed on these grounds: appropriate evidence must be obtained in the most efficient way in order to get useable, unbiased and accurate responses to answer the research questions (Hair, Bush & Ortinau, 2003). For this reason, a research design should, as suggested by Hair et al (2003), often include:

- How data is to be acquired
- What instruments are to be employed
- How the instruments are to be utilised and
- Provide an outline of the intended means for analysing the data collected

The following figure shows that research design precedes the choice of research techniques and there are three such techniques – i.e., quantitative, qualitative and eclectic or mixed methodologies as noted by Creswell (2003).

Figure 4.5: Research Design and Methods



Source: This Study (Points taken from Creswell (2003))

4.2.1. Research Methods or Techniques

Research methods are individual techniques for that are used to aid the data collection process (Easterby-Smith et al., 2004) and there are basically three methods, as displayed in Figure 3.5 above. These methods show practices of research that ought to be carried out and spell out how the research approaches may affect the findings. Research methods and techniques can be experimental, statistical testing, case analysis, secondary data analysis, participation, interviews, and observation. As it has already been established that the current study reflected a positivist paradigm, which is deductive in nature (i.e., a top-down approach), more emphasis was be placed the quantitative research design and this method was explained further as the qualitative methodology does not apply to this study. However, a comparison between the two methods was used to highlight the main differences and also to justify why quantitative method was chosen over qualitative research design.

4.2.2. Quantitative Methodology

In line with the drive behind this study as well as the research problem, a quantitative methodology was deemed suitable to meet the study objectives while providing 'solutions' to the research problem. Additionally, as the current study sought to determine the correlation between the variables, consideration was given to the use of a quantitative methodology. As stated by Hair, Money, Samouel and Page (2007), quantitative research design allows for the analysis of data to determine and validate or reject relationships between variables of interest. This technique follows the following steps:

Theory → Hypothesis Testing → Confirmation / Refutation

The usefulness or applicability of quantitative research design can be proven by identifying the features attributed to both methods – i.e., quantitative and qualitative. Therefore, before elaborating on why a deductive approach was chosen over an inductive approach, it may be advantageous to firstly understand the differences, features, debate on the two methods as well as the strengths and weaknesses of each method.

4.2.3. Applicability of Quantitative Methodology

In quantitative research, the investigator is, in essence, an objective spectator that neither influences nor participates in what is being investigated (Aluko, 2006). However, in qualitative research it is believed that an investigator can acquire the most about the *status quo* by taking part and/or by being immersed in the situation (Aluko, 2006). A qualitative

study uses methods like in-depth or less-structured interviews, focus groups, review of documents for a thematic analysis. This shows that this methodology was inconsistent with this study as it used surveys and it was a requirement that hypotheses were developed and stated prior to the start of this study. The reliability and validity of this study largely depended on the measurement instruments used (Ghauri & Gronhaug, 2002).

Noteworthy, the chosen approach frequently reflects the interests of the researcher or those who may benefit from its findings as well as the purposes for the application of the findings (Aluko, 2006). Additionally, Hathaway (1995) stated that decisions on the appropriate research method for a study may also hinge on the researcher's personal preference and experience, the population being investigated, the projected audience that will use the findings, and available resources (i.e., money, time, among others). The following advantages of a quantitative method influenced the researcher's choice of this approach.

4.2.4. Advantages and Drawbacks of Quantitative Method

Just like any methodology, the quantitative approach also has its shortcomings. Quantitative research at times "induces" responses or individuals into classifications that may not be "appropriate" so as to create meaning (Ghauri & Gronhaug, 2002). Accordingly, the advantages and disadvantages of the quantitative method are presented in the table below.

Table 4.3: Advantages and Disadvantages of Quantitative Research Methods

Quantitative Method
Advantages • Ability to accommodate large sample sizes; increases generalisability of results • Ability to distinguish small differences • Ease of administering and recording questions and answers • Capabilities of using advanced statistical analysis • Abilities of tapping into factors and relationships not directly measurable
Disadvantages • Difficulty of developing accurate survey instruments • Limits to the in-depth detail of data structures • Lack of control over timeliness, and potentially low response rates • Difficulties in determining whether respondents are responding truthfully • Misinterpretations of data results and inappropriate use of data analysis procedures

Source: Hair et al., 2003

In terms of quantitative methods, a researcher is seen as external and a supposition is made that respondents are carefully chosen, through the use of an unbiased selection criteria (Holden & Lynch, 2004). This selection criterion is likely to result in constant or objective data; irrespective of who does the research (Creswell, 2003). Quantitative methods are therefore more structured, systematic and allow the investigator to acquire the required data straight from the respondents, in a very open and vibrant way (Ghauri & Gronhaug, 2002; Hair et al., 2003). Thus, in this study, there was a high probability of generating accurate and quantifiable findings (Ghauri & Gronhaug, 2002). The tools for a quantitative analysis – e.g. survey questionnaires, are intended to guarantee causality, objectivity, reliability, replicability and generalisability, (Bryman, 1984; Creswell, 2003). The following section provides a defense for the chosen method for the current study – i.e., the quantitative method.

4.2.5. Justification / Defense for the Chosen Method: Why Quantitative Method?

Despite the fact that quantitative research method has its own drawbacks, it was chosen on the basis of its strengths, closer link to the study aims and was regarded the best alternative in solving the research problem. Prior to choosing this method, the researcher noted that it is ill-advised to advocate one method over another without considering:

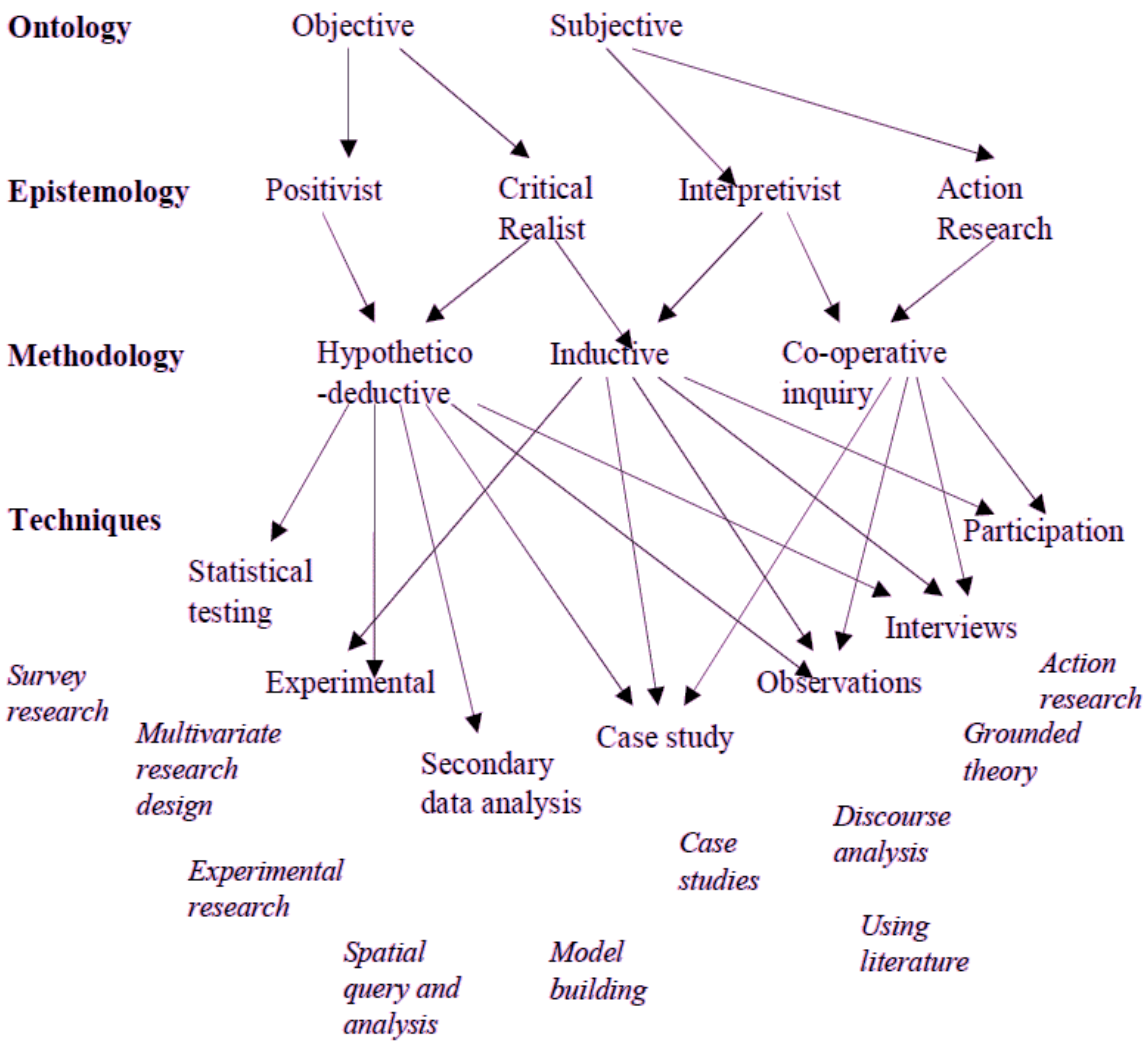
(i) how the study may be improved by using an another method,
(ii) how a researcher may react to criticism by proponents of an alternative methodology that may harm the overall study, and
(iii) how the research attention, problem and questions influence the choice of the ultimate technique (Scacchi, 2002).

Quantitative methodology was deemed appropriate for this study as it uses a survey to draw behavioural manifestations in social phenomena, for example, individuals' product choice or purchase intention among others. Owing to the fact that a quantitative methodology allows for flexibility in data treatment, as well as with regards to statistical analyses, comparative analyses, and repeatability of data gathering, so as to confirm the reliability of instruments used (Aluko, 2006), it because the most attractive alternative for this study.

Quantitative design also clearly illustrates the structure of the object under study, spells out its manifest behaviour, and scalable consumer attitude to pre-arranged objects (Aluko, 2006). Therefore, quantitative methods are ideal in measuring overt behaviour, and they effectively measure descriptive aspects (in this case – which organic food retail outlet is more popular

amongst Johannesburg consumers?). Moreover, they allow for effective comparison and replication, as well as objective assessment of reliability and validity while at the same time providing statistical evidence. Although quantitative methods fail to determine deeper underlying explanations and meanings of a social phenomenon, they adequately measure the variables under study and their pertinence through a thorough explanation (Aluko, 2006). Therefore a quantitative approach was deemed justified for the current study. Figure 4.6 below provides a summary of the above discussion – from research philosophy to research methods. This summary made use of the research design map provided by Beech (2005).

Figure 4.6: Research Design Map



Source: Beech (2005)

The research design map above provides a research scope that can be used in choosing between ontology and epistemology, the relevant methodology and appropriate techniques or methods as displayed in Figure 4.8 below. These basic concepts are important in making a research to be academically believable. Consistent with Beech (2005)'s research design map, it can be said that the current study applied an objective ontology, made use of a positivist epistemology, and used a *hypothetico-deductive* methodology through statistical testing. Hence, a quantitative method was applied through the use of a survey questionnaire.

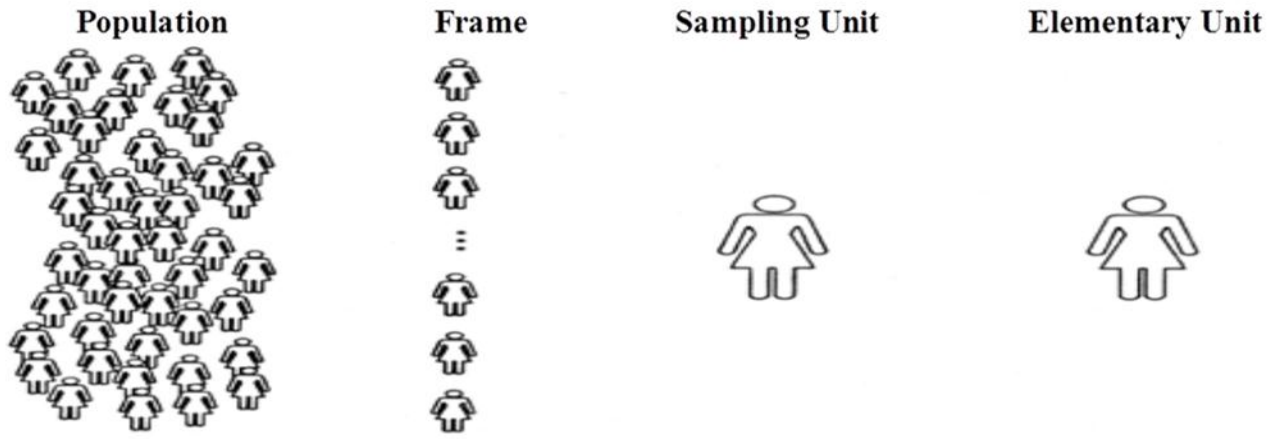
The following section further elaborates on the sampling design adopted in the current study.

4.3. Sampling Design

Sampling design is a procedure where a portion of the data is gathered from a larger population in order to draw inferences from the sample to the entire group (Teddlie & Yu, 2007). Aspects like the target population (i.e. the scope of the study as defined by the geographic location), sampling frame (i.e., all cases from which the sample is selected), sampling method (i.e., making a choice between two main approaches: probability and non-probability methods) and sampling size (i.e., the total number of respondents) are typical elements of a sampling design (Collins, Onwuegbuzie & Jiao, 2007). According to Collins et al. (2007) a sampling design has two key elements:

- *Sampling method* – Guidelines and procedures through which population elements are integrated in the sample.
- *Estimator* – This is the estimation procedure for calculating sample statistics. Different sampling methods use different estimators, for example, there are a number of formulas for calculating standard error.

Figure 4.7: The Effect of Sampling



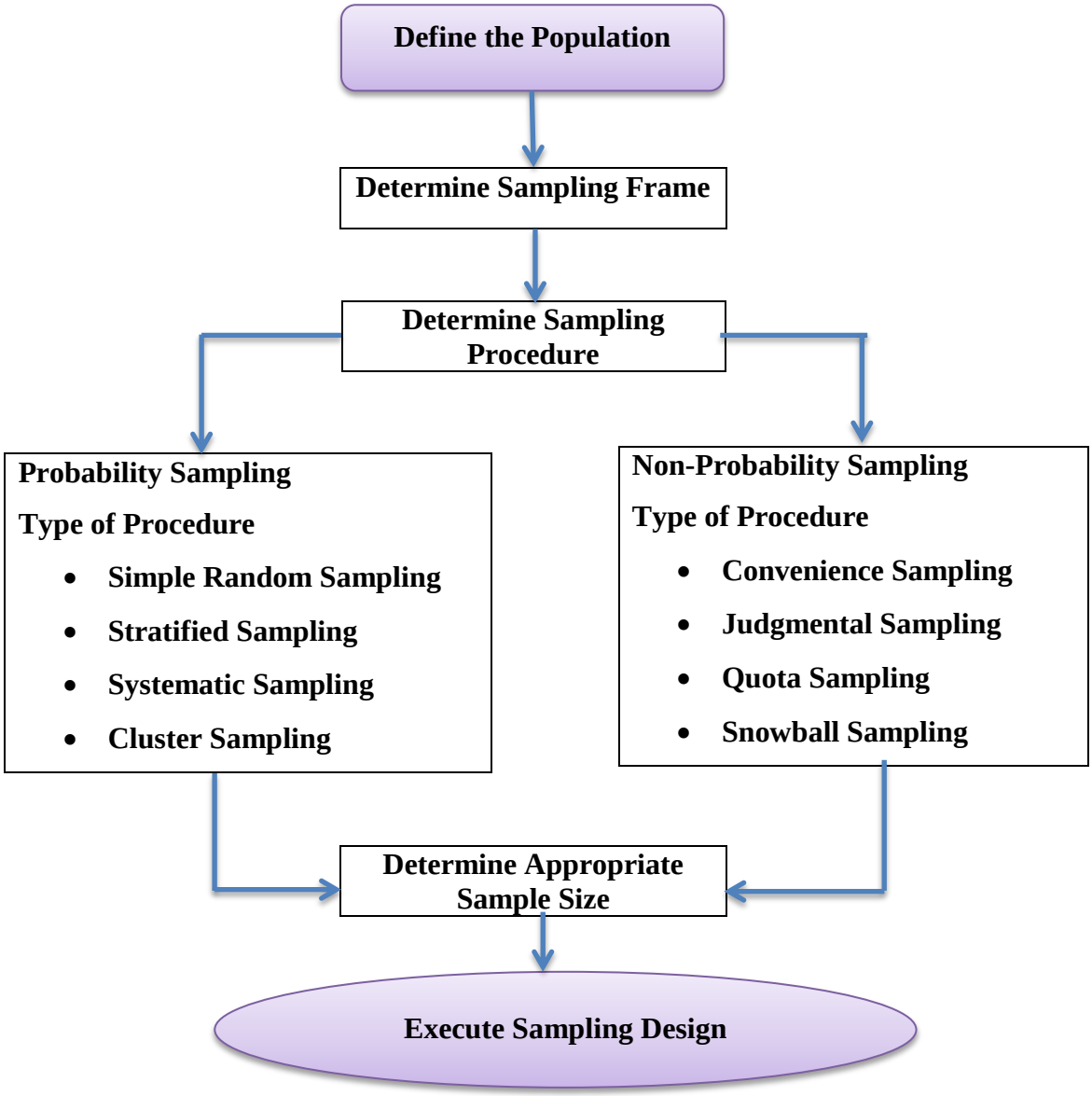
Source: Frerichs (2004)

4.3.1. Sampling Design Process

The sampling design process has a number of stages. Each stage must be considered carefully prior to moving to the next stage. This procedure is necessary, starting from defining the target population to the actual selection of sample elements. There are basically 6 steps involved in this process, and these steps may vary according to the type of research or the researcher's interests.

The figure below provides an illustration of the 6 steps of the sampling design that were considered in this study.

Figure 4.8: Steps in the Research Design Process



Source: Churchill & Iacobucci (2004)

Figure 4.8 above shows a research design process. The above steps are described below:

- **Define the Target Population** – This is the initial stage that sought to address the question that, "Who are the ideal respondents for the study?" It sought to describe as to who would be surveyed, define the characteristics of the respondents (i.e., their gender, age, level of education, number of children, income level, among others) and who must be left out (e.g., the geographic area – people living outside Johannesburg).
- **Determine Sampling Frame** – This stage involved obtaining a "list" of the population – i.e., establishing how the sample was to be reached, for example, approaching consumers when they enter the organic food outlet or when doing their shopping. However, some problems with these lists may include omissions, duplications and ineligibles (Churchill & Iacobucci, 2004). Sample units were also described in this section – i.e., providing a clear definition of the sample to be surveyed, for example, individuals, households, companies and so on.
- **Determine the Sampling Procedure** – This is about making a choice between either probability sampling (i.e., *randomisation* – where individuals have an equal prospect of being integrated in the sample) or a non-probability sampling (i.e., *non-randomisation* – where individuals have an unequal chance of being part of the sample). Further information in this regard will be provided at a later stage.
- **Determine the Appropriate Sample Size** – After having defined the population, it may be easy to determine the appropriate sample size. A researcher may, for example, use Raosoft sample size calculator. However, in this case, a sufficiently representative sample was used, as detailed in (https://explorable.com/population-sampling).
- **Execute the Sampling Design** – Once all the above is in place, the researcher can apply the chosen sampling design; for example, participants for the current study survey were randomly selected after determining the population, sampling technique and the satisfactory sample size.

The most paramount feature of sampling design is that the chosen sampling technique should reach participants who can provide relevant and precise data, in order to help in solving the research problem through responding to the research questions. If this is not the case, all the research endeavours may become futile and, likewise, the outcome may become unusable (Churchill & Iacobucci, 2004).

The steps suggested by Churchill and Iacobucci (2004) are not always practically easy to follow and an alternative was provided by Hair et al. (2003) in order to help in researchers in deciding on the most suitable sampling design. According to Hair et al. (2003), researchers need to answer the questions relating to the following aspects when deciding on the proper sampling design:

- Research objectives, degree of accuracy, perceived availability of resources, time frame, advance knowledge of target population, scope of the study, perceived statistical analysis needs.

The questions relating to the above critical aspects are presented in the table below.

Table 4.4: Critical Factors in Choosing a Proper Sampling Design

Selection Factors	Questions
Research objectives	Does the research objective call for the use of qualitative or quantitative research designs?
Degree of accuracy	Does the research call for making predictions or inferences about the defined target population, or only preliminary insights?
Perceived availability of resources	Are there tight budget constraints (both monetary and manpower-related) that can be allocated to the research project?
Time frame	How quickly does the research project have to be completed?
Advance knowledge of target population	Are there complete lists of the defined target population elements? How easy or difficult is it to generate the required sampling frame of prospective respondents?
Scope of the study	Is the research going be international, national, regional or local?
Perceived statistical analysis needs	To what extent are accurate statistical projections required and/or testing of hypothesized differences in the data structures required?

Source: Hair et al., 2003:363

The following section provides an application of the steps in sampling design process as suggested by Churchill and Iacobucci (2004).

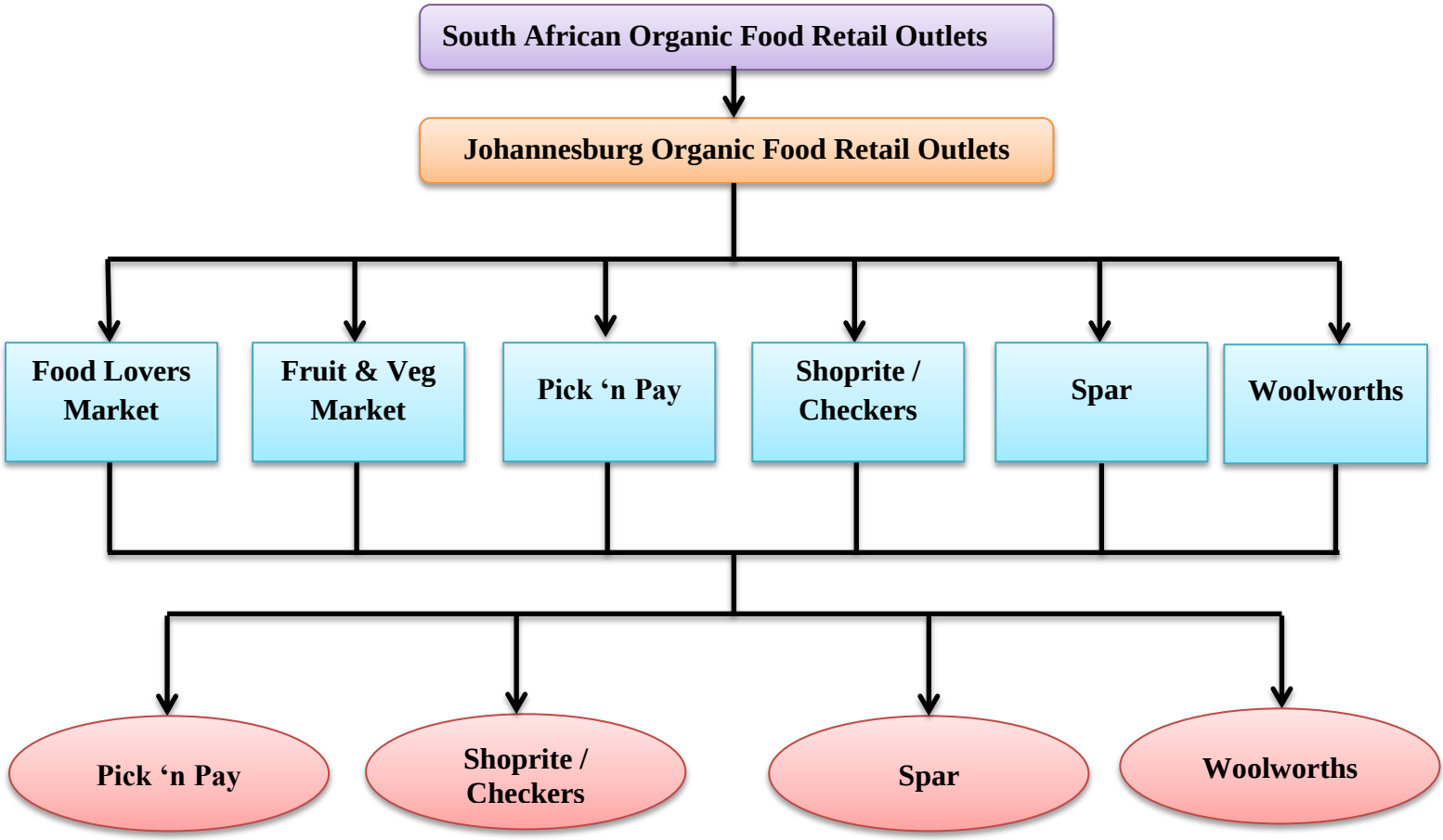
4.3.2. An Outline of the Target Population and the Sampling Frame

In order to vividly discuss aspects relating to the study population and sampling frame, an illustration is provided in Figure 4.9 below. Major industry players within the retail sector in the country include Pick ‘n Pay Holdings Ltd, Edcon Pty (Ltd), Spar Group Ltd, Shoprite Holdings Ltd, Massmart Holdings Ltd and Woolworths Holdings Ltd (Gauteng Province Quarterly Bulletin, 2012). In the 2012 Global Powers of Retailing report, the country’s top

five retailers were ranked as follows: Shoprite Holdings Ltd was ranked 92nd in the retail sales rank, Massmart was ranked 126th, Pick n Pay was ranked 133rd, Spar was ranked 179th and Woolworths was ranked 222nd in the global top 250 retailers (Deloitte Touche Tohmatsu Limited, 2012). Since Massmart Holdings is not involved in the organic food industry, this leaves the country's top four retailers as Pick 'n Pay, Shoprite, Spar and Woolworths – commonly known as the "Big 4". The chosen organic food retail outlets (i.e., the "Big 4") formed part of the sampling frame for the current study. Individual humans (i.e., customers) were used as units of analysis for the current study and these customers were selected from the 'group' of organisations – Pick 'n Pay, Shoprite, Spar and Woolworths – the "Big 4".

Figure 4.9 below demonstrates an outline of how the researcher eventually arrived at the final sampling frame for the current study. A transitory description thereof is provided below.

Figure 4.9: A Summation – From Target Population to the Sampling Frame



Source: This Study

4.3.3. Population

The population (as denoted by N) for the research refers to "all the elements (individuals, objects or substances) that meet a certain criteria for inclusion in a given universe" (Burns & Grove, 2005:345). It must include all the people who have certain features that are of interest to the researcher and must emanate from where the investigator wishes to extrapolate certain conclusions or generalisations (Chinomona, 2012). As above-mentioned, the first step in the sampling process is to define the target population. An unclear or improper description of the population is likely to give rise to false results (Levy & Lemeshow, 2008). In light of this study, the target population was the consumers who shop in the "Big 4" organic food retail outlets (i.e., Pick 'n Pay, Shoprite, Spar and Woolworths) in Johannesburg as supported by the Gauteng Province Quarterly Bulletin 2012). Therefore, the criterion for a respondent to qualify or participate in this study was that the individual was supposed to be at any of the top four organic food retail outlets during the time when the data was collected.

4.3.4. Sampling Frame

A sampling frame is a list of elements from which the sample is actually drawn, representing a comprehensive and correct list of the population members who can be sampled. It may include individuals or subjects used in a study, family units, organisations or the research environment (Hair et al., 2007: Pedhazur & Schmelkin, 1991; Yang, Wang & Su, 2006). In statistical terms, a sampling frame refers to a source material or a device from which a sample is drawn (Chinomona, 2012). Typically, a research problem and objectives or questions are used to determine the sampling frame – i.e., they specify as to who should be sampled or what to sample. It is used to determine the elements of the population by means of explicit or implicit listing (Fricker, 2011).

When deciding on the sampling frame, the researcher deliberated on and answered the following questions, as put forward by Hair et al. (2003):

- Is there a complete list of well-defined target population elements?
- How easy or difficult is it to determine the necessary sampling frame of potential respondents?

Additionally, when determining the sampling frame, the investigator was also conscious of the significance of avoiding sampling frame error. This error usually occurs when specific sample elements are excluded or when the total population is wrongly represented in the

sampling frame (Hair et al., 2007; Palys, 1997). Therefore, the exclusion of certain sample elements (for example, Fruit and Veg, Food Lovers market and other smaller retail outlets that sell organic food as well as other cities outside Johannesburg) was done with extreme cautiousness, in order to avoid under- or over-representing population elements. Figure 3.9 below provides a further discussion on the coverage properties of the sampling frame. Nonetheless, during data analysis, the researcher realised that there was an over-representation of female respondents. This may have been the key deficiency of the chosen sampling method. Arguably, this over-representation may be justified as many females do food-related or household shopping.

On the whole, in light of the current study, the sampling frame was Pick 'n Pay, Shoprite/Checkers, Spar and Woolworths. These top retail outlets in South Africa (Gauteng Province Quarterly Bulletin, 2012) had organic food in their premises, and therefore it was proper to ask consumers who shop in these outlets whether or not they intend to buy organic food. Only selected branches for these outlets, e.g., Cresta, Sandton, Rosebank were contained in the sampling frame.

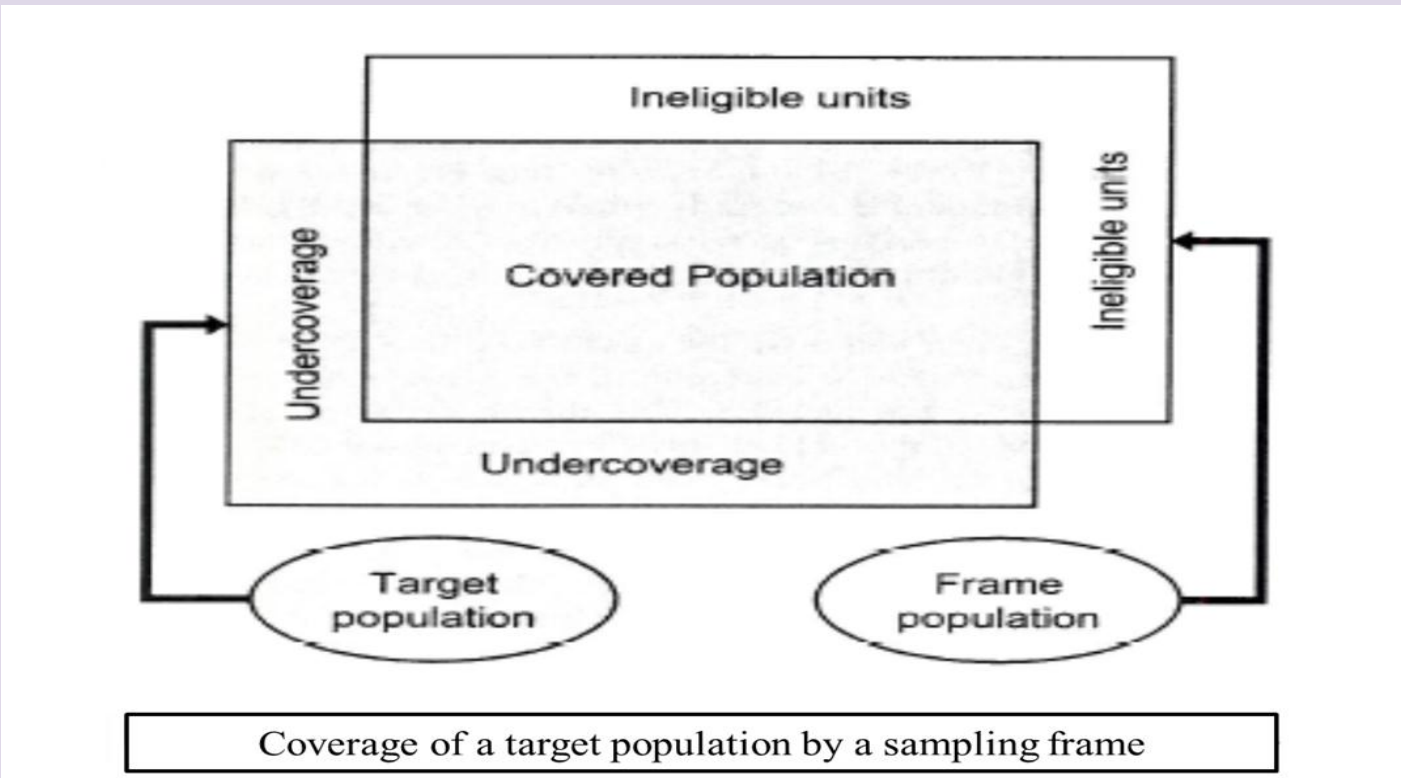
4.3.5. Coverage Properties of the Sampling Frame

Arguably, the chosen sampling frame fully or adequately covered target population elements – i.e., the list was *exhaustive*. According to Fricker (2011), sampling frame becomes perfect when there is one-to-one mapping from the sampling frame to the population elements – i.e., when there is either duplication or clustering:

- Duplication happens if many frame elements map to one entire population element.
- Clustering happens when a number of complete population elements map to one frame element (Fricker, 2011)

Under- or over-coverage usually results in *coverage bias.* The strategy may be to broaden (in case of under-coverage) or condense (in case of the sample frame being over-represented) the definition of who forms part of the sampling frame. This may also necessitate the re-definition of the ineligible units (Fricker, 2011). The chosen sampling frame made this study to be less prone to the coverage bias and there was no need of broadening or condensing the sample frame definition. Figure 4.10 below shows the coverage of the population by a sampling frame. In light of this study, and as per the figure below, the covered population was Johannesburg consumers who shop at the country's "Big 4 retail" outlets.

Figure 4.10: Coverage of the Target Population by the Sampling Frame



Source: Fricker (2011)

4.3.6. Sampling Method

A sampling method is a 'tool' that is used in research to select respondents from the general population (Ghauri & Gronhaug, 2002). Additionally, a sampling method can be defined as a scientific procedure of deciding on sampling units that are more likely to provide the necessary estimates, with related margins of uncertainty, that arise from analysing only a part and not the whole (http://cs.gmu.edu/cne/modules/dau/stat/data/sample_frm.html). Correct sampling methods are essential for reducing sample selection bias. A sampling method must be easy to implement, efficient and effective to be generally applicable (Grafstrom, 2010). There are basically two sampling methods: probability and non-probability sampling methods as represented in Figure 4.8 above. This study used non-probability sampling method and this will be explained in one of the sections below. In advance of choosing the right method for this study, the researcher reflected on the question proposed by Hair et al. (2003) that:

- Are there any tight budget constraints with respect to both financial resources and manpower that can be allocated to the research project?

A specific budget was set aside for the successful completion of this study, for example, R3000 was spent on 300 Wits branded pens that were to be used by respondents when filling in their responses. The researcher had rightly anticipated that consumers would not have pens in their possession, when doing their shopping. Therefore, to facilitate the easy collection of data, pens were made available to respondents. Afterward, the respondents were to keep the pens and this was a way of thanking them for their valued responses. Again, R1500 was set aside for the printing costs as well as transport costs to get to the retail outlets, situated in different areas across Johannesburg. No individuals were recruited to either collect or analyse the gathered data and interpret the findings. All the data was collected, analysed and interpreted by the researcher, with the guidelines from the principal or designated supervisor.

4.3.7. Justification for the Use of Sampling: Why Sample?

At this instant, it may be necessary to justify why a sample was taken – i.e., why not study every member of the population. It is almost impossible to gather data from every person in a population. Moreover, it is typically infeasible to conduct a complete 'census' of everyone for the reason that there are budget and time constraints (Schreuder, Ernst & Ramirez-Maldanado, 2004). This may be due to the fact that not all members of a population may be accessible and there is a high probability of surveying one individual more than once. As a result, a sample of the population is often utilised to make extrapolations about the entire population (Schreuder et al., 2004). Therefore, the main aim of sampling is to make inferences about the population under study. However, this can be done if accumulated data is *representative* of the whole population of interest. The table below shows some of the advantages and limitations of sampling. Thereafter, a discussion on probability sampling (as a chosen method for the current study) was further provided.

Table 4.5: Advantages and Drawbacks of Sampling

SAMPLING	
Advantages	**Limitations**
• **Greater economy –** Provides data at a least cost than complete enumeration • **Less time consuming –** Results can be provided much faster • **Greater scope –** This is about the multiplicity of information due to its adaptability and flexibility	• **Errors** – High likelihoods of making errors in sampling • **Problems of accuracy** – May be infeasible for problems that necessitate a high level of accuracy • **High chances for bias** • **Lack of the informants**

Source: Singh (2012)

According to a sampling handout (Undated), the four kinds of a sampling approach needed to make correct inferences about populations are:

(i) Specific and well-defined objectives – These objectives should make it possible for a researcher to address the question(s) of interest – i.e., the chosen sampling design should answer the questions of interest. Therefore, it must be tailored around the specific questions or hypotheses.

(ii) A probabilistic sampling framework must be used to explain spatial variability.

(iii) Detectability – A sampling method should make it possible for the researcher to approximate detection probabilities (i.e. account for the ratio of persons present, but not noticed during the survey).

(iv) Sample size requirements – Adequate sample sizes must be drawn in order for the researcher to be able to derive statistically valid extrapolations about the population. Sample size requirements, however, vary depending on the research objectives, hypotheses, and sampling methods.

The chosen sampling method – non-probability sampling, will be further discussed below.

4.3.8. Non-Probability Sampling

Non probability sampling is a sampling technique in which units of the sample are selected on the basis of personal judgment or convenience; the probability of any particular member of the population being chosen is unknown (http://www.evisdom.com/pdf/000504295.pdf). Furthermore, non-probability sampling does not use random sampling from the population of interest. Therefore, respondents did not have a known or equal chance of being included in the study. However, individual methods are utilised to elect which elements can be incorporated in the sample (Battaglia, 2008).

- **Convenience Sampling –** Convenience sampling (as one form of non-probability methods) is a way of drawing representative data by selecting people because of the ease of their volunteering or selecting units because of their availability or including the selection of the most easily or conveniently accessible respondents (Latham, 2007). This sampling procedure allowed the researcher to obtain the data from those people or units that were most conveniently available. Ease of obtaining the sample further relates to the geographic distribution of the sample, the cost of locating population elements and population dispersion with clumped dispersion being preferred over random dispersion. This study used convenience sampling through

mall intercept survey approach. The chosen method allowed the researcher to get fundamental information efficiently, quickly and economically as put forward by Zikmund et al. (2010) and Cooper and Schindler, (2006). Thus, primary selection criterion hinged on the ease of obtaining a sample. Although this method produced many responses quickly and at low cost, respondents may not have been representative owing to the haphazard manner of recruiting respondents. Moreover, the researcher was cognizant of the fact that using data based on a convenience sample should remember made it not possible to generalise findings across other populations.

4.3.9. Sample Description

A sample is the number of observations used to compute estimates of a specified population (Smith, 2011). A good sample choice is vital to make it possible for the researcher to generalise the findings from the chosen sample to the entire population (Ghauri & Gronhaug, 2002). As the generalisation of study findings to other contexts is the main motivation behind doing a survey research, Singh (1986) suggested that a good sample must have two key features:

- representativeness
- adequacy

In this study, the selected sample was taken out from the whole sampling frame – consumers that shop at the "Big 4" organic food retail outlets.

4.3.10. Determination of the Right Sample Size: How Large Must the Sample Be?

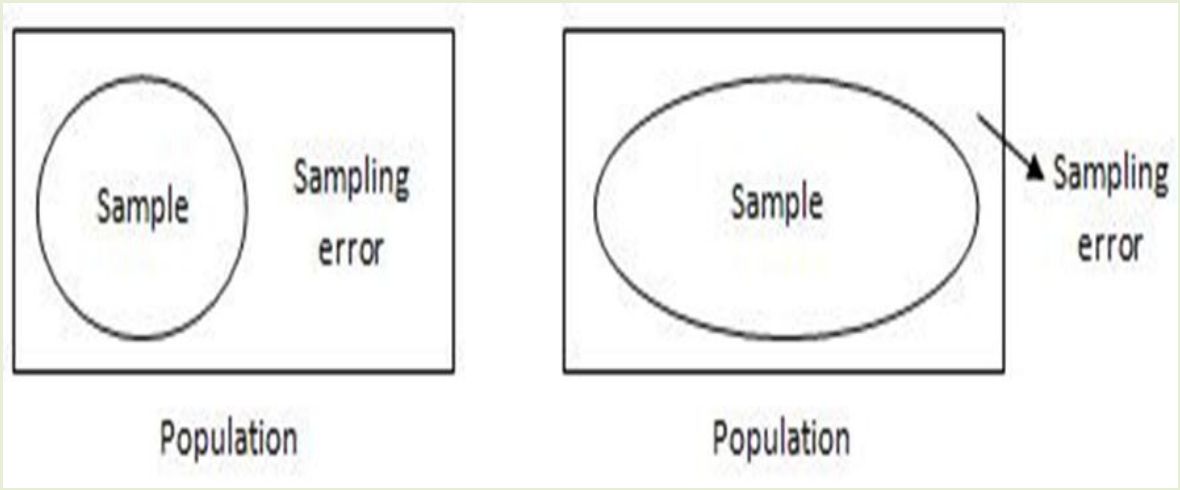
Sample size (symbolized by n) refers to the number of items used for computing estimates of a specified population (Smith, 2004). The sample size impacts the precision of estimation. A sample size that is *too small* increases the probability of a sampling error while the one that is *too large* may reduce efficiency. In general, larger sample sizes may help in minimising sampling errors, decrease sample variation (i.., the random differences between the population and the sample) and may improve the generalisability of the results (Yang et al., 2006). As aforementioned, the aim of using samples is to lessen costs and time taken to complete a study by allowing investigators to make generalisations about the entire population, without having to survey every single member of the population. As there are no fixed rules that researchers must use to determine the right sample size (Chinomona, 2012),

the researcher managed to arrive at a sample of **305** respondents. This was considered sufficient to meet the objectives of the current study. Moreover, it was feasible to obtain adequate independent samples; hence there was no need to relax the statistical assumptions or to change the study plan in order to address the lack of feasibility.

4.3.11. Errors in Sampling

Sampling error is the deviance of the chosen sample from the true traits, characteristics, qualities, behaviours, or figures of the whole population (https://explorable.com/sampling-error). Sampling errors arise due to the fact that *only* a sample of the population is studied. In advance implementing the sampling design discussed above, it is useful to mention some of the errors associated with sampling and that which the researcher tried by all means to avoid. The figure below shows an example of sampling error.

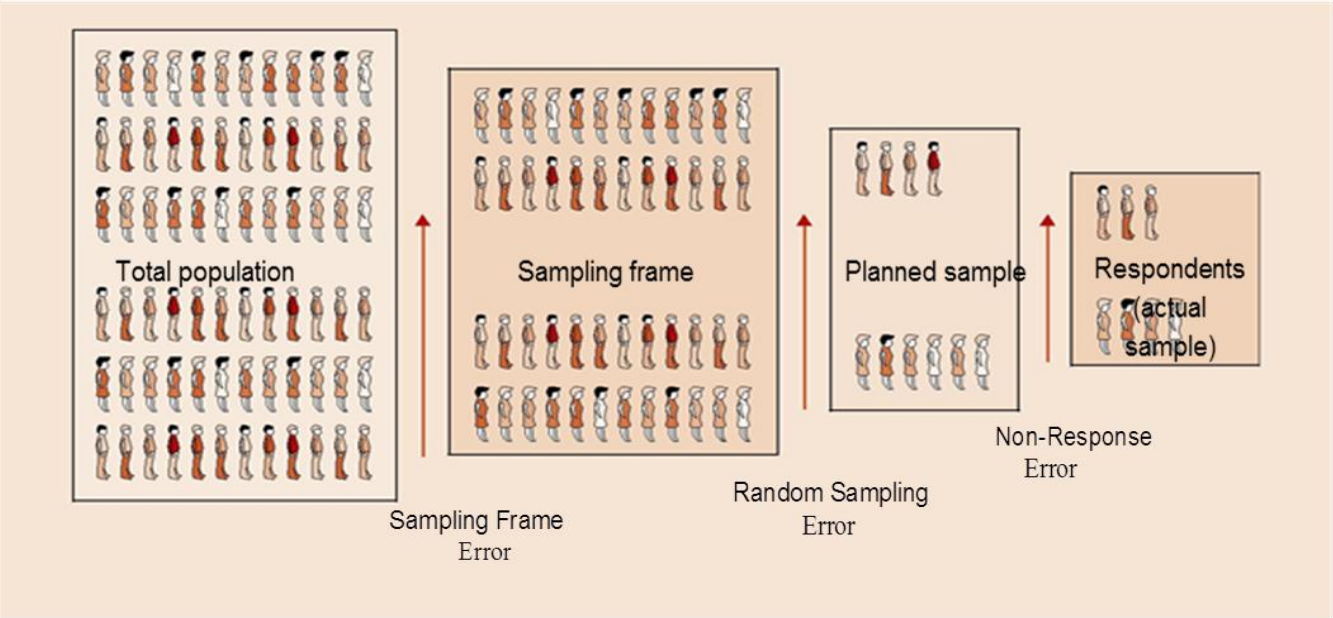
Figure 4.11: Sampling Error Illustration



Source: https://explorable.com/sampling-error

There mainly three types of errors in sampling as represented in the figure below:

Figure 4.12: Errors Linked with Sampling



Source: Bellenger, and Greenberg (1978); Cox and Enis (1972)

- **Sampling Frame Error** – Sampling frame errors may result from the elimination of some potential respondents (Cox & Enis, 1972). Admittedly, by excluding consumers who shop at other retail outlets like Fruit & Veg, The Food Lovers Market and others, this study may have been susceptible to sampling frame errors. Such exclusion may have created a disparity in the representativeness of the target population.
- **Unsystematic or Random Sampling Error** – Random sampling error declines as sample size increases – i.e., it is inversely linked to sample size (Cox, & Enis, 1972). In principle, no suitable statistical methods are available for measuring random sampling error from a non-probability sample (Cox & Enis, 1972). However, since the current study used a fairly large sample, this error may have been minimised.
- **Systematic or Non-Random Sampling Error** – Non-sampling errors can ensue at every single stage of preparation stage, field work stage as well as computation and tabulation stage. Non-sampling error can emerge from sources like non-response error, response error along with data capturing/processing errors (Bellenger & Greenberg, 1978; Cox & Enis, 1972). Therefore, in line with Cox and Enis (1972), these errors are due to a lack of proper specification of the study domain and scope, imperfect coverage of the sample representing the population, faulty data collection methods and tabulation errors.

- *Errors stemming from non-response* – These errors are due to lack of respondents or respondents' refusal to participate. This may create some bias in the estimates.
- *Response errors* – These errors stem from an incorrect presentation of questions, respondents' failure to understand the question and reluctance or failure to answer appropriately.
- *Errors in capturing or processing* – These are errors that happen during the data processing stage, e.g. errors in coding (e.g., failure to appropriately code *reverse-coded* questions) or they happen during the data entry process. Checks may help in correcting or fixing such mistakes.

Non-sampling errors are hard or even impossible to estimate in contrast to sampling errors, which can be estimated based on the survey data (Cox & Enis, 1972). Therefore, prominence was laid on controlling for such errors, instead of on specifying their size in the data.

4.4. Variables and their Equivalent Items

A measurement instrument is a measure that integrates values of many items that measure the construct (also referred to as questions, events indicators, observations) into a composite measure so as to gauge a fundamental continuum (Chinomona, 2012). The measurement instruments for the current study were operationalised in line with earlier studies relevant to it. However, minor revisions or adaptations were made in order to ensure that the measurement instruments fitted the context and purpose of this study. The measuring items for all the research variables comprised of only close-ended questions. The descriptive section had an option "Other" and respondents were expected to specify – e.g. other language, other retail outlet. The subsequent section provides a discussion on how these instruments were presented in the main survey questionnaire for this study. All the measurement instruments and their items were adapted from Olivová (2011).

4.4.1. Exogenous (Independent or Predictor) Variables

Variable: *Consumer Attitude* – Four items were used to measure this variable. Examples of some of these measurement items included:

- I am motivated to purchase organic food because of its benefits
- I intend to buy organic food because of its positive image to me

Variable: *Health Consciousness* – Five items were used to measure this variable. Examples of some of these measurement items included:

- Conventional foods are as healthy as organic foods
- Organic foods are healthier because they have no/less chemical residues

Variable: *Perceived Price* – Five items were used to measure this variable. Examples of some of these measurement items included:

- I often refrain from intending to buy organic food because I think it is expensive
- It is important for me that organic food is priced the same as conventional food

Variable: *Perceived availability* – Again, five items were used to measure this variable. Examples of some of these measurement items included:

- I would consider purchasing organic food if it is available at the place where I purchase food produces
- I intend to buy organic food if they are more accessible in the market

Variable: *Labelling* – This variable was tested using five items. Examples of some of these measurement items included:

- Labels are a way of distinguishing between organic and conventional foods
- I am able to recognize an organic food label

Variable: *Knowledge Levels* – Five items were used to measure this variable. Examples of some of these measurement items include:

- I know that organic food tastes better than conventional food
- I know that organic food is fresher than conventional food

Variable: *Subjective Norm*– Five items were used to measure this variable. Examples of some of these measurement items include:

- People that are important to me would like me to consider buying organic food
- Most people who influence what I do, think that I should not intend to buy organic food

Variable: *Environmental Concerns* – Again, five items were used to measure this variable. Examples of some of these measurement items include:

- The environment should be protected through environmentally friendly farming methods
- The production of *conventional* food does not harm the environment

4.4.2. Endogenous (Dependent or Outcome) Variable

Variable: *Purchase Intention* – This variable was tested through the use of eight items. Examples of some of these measurement items include:

- My intention to buy organic food in me comes from health reasons
- My intention to buy organic food is linked to price of such foods

A detailed list of all measurement items for the above variables is found in Appendix V, which essentially represents the survey questionnaire for this study.

4.5. Questionnaire Design

No study can accomplish its aims without a well-designed questionnaire. Unfortunately, in marketing research there is no theoretical basis for questionnaire design to guide researchers in developing a flawless survey form (http://www.fao.org/docrep/w3241e/w3241e05.htm). Despite this unfortunate situation, the researcher kept in mind the following key points suggested by Bradburn, Sudman and Wansink (2004):

- **Kinds of Information** – The type of information to be captured was to meet the objectives of the study in order to fulfill the purpose of the evaluation.
- **Kinds of Questions** – The type of questions and the ultimate responses were to best capture the information sought in the current study – e.g. open- or close-ended questions.
- **Type of Format** – The chosen design or format was to be user-friendly in order to capture the breadth of information that was sought in the current study.

Frequently, questions in a survey capture data come from a number of categories, and it was noted in this study that the survey questions included, but was not limited to, knowledge, consumer attitude and behavioural intention. As aforementioned, the survey questionnaire was adapted from Olivová (2011). Minor adjustments were made in an attempt to fit the context and purpose of the scales used in the current research. There were 8 predictor variables that were modeled against 1 outcome variable. In total, there were 47 measurement items for all the 9 variables. Each item scales are detailed in Appendix V.

The types of questions used in the current study were closed-ended questions. Respondents were expected to choose from the specified response options for each question.

4.5.1. Why Close-Ended Questions were Used?

Carefully selected response options make allowance for a similar frame of reference for all participants when selecting a response (Colosi, 2006). The response options in a close-ended questionnaire are pre-determined. This is advantageous because such questions are likely to be more unambiguous and specific than open-ended questions. The use of closed-ended questions facilitates a timelier and more efficient data analysis process (Colosi, 2006). Moreover, such questions tend to promote uniformity among informants regarding the same level of understanding the questions. Therefore, situations where an answer to an open-ended question may be vague are simply resolved through the use of closed-ended questions as they have greater specificity in response options (Colosi, 2006; Schwarz & Oyserman, 2001). It is this greater specificity and uniformity brought about by closed-ended questions that makes it possible for researchers to generalise the study findings that can be reported across other similar contexts. Despite these advantages of closed-ended questions, the notable drawbacks are that there is no room for respondents to express their own responses, in ways they understand the questions. Participants are thus forces to only consider the pre-determined options for them to answer the questions. Therefore, prior to deciding on whether to use open- or closed-ended questions, the researcher thought about the goals of the current study and also considered the rule of thumb, as suggested by Converse and Presser (1986:33) that:

> *"If a researcher knows the specific information needed to answer a question – and requires a single frame of reference among respondents, closed-ended responses are preferred. If however, a researcher is not sure what the range of possible responses is to a question, and hopes to conduct a preliminary exploration of a topic, open-ended questions will work better".*

According to Bradburn et al. (2004), respondents are more than willing to provide sensitive data when a survey questionnaire uses open-ended responses. Since the current study did not have any sensitive questions, closed-ended questions were thus preferred. When designing the questionnaire, i.e., when making modifications to the adapted questionnaire, the researcher checked whether there was no presence of the following:

i) *Leading Questions* – The researcher ensured that all the survey questions did not lead respondents to a favoured response. Doing so, i.e., having leading questions was to defeat the whole purpose of conducting the research.

ii) *Double Barreled Questions* – The researcher also ensured that each question

addressed only one issue. Having double barreled questions, for example, questions with "and", is likely to create ambiguity as respondents may agree with the first part of the question, but disagree or be unsure of the second part. Hence, all questions were checked to ensure that they provided a clear distinction and that one issue was addressed at the same time.

iii) *Vague or Confusing Questions* – All the questions were written clearly and they were very direct. Wherever respondents found the questions to be 'unclear', the researcher was available to provide clarity whenever necessary.

iv) *Personal or Invasive Questions* – Questions about personal information, for example, personal income, were phrased in a way that was non-intrusive. In case of questions on income levels, broad categories of responses were provided from which respondents were expected to make a choice on a specific category. This made participants to be more comfortable reporting their personal income in a category form (e.g., R11000 – R20000) instead of the exact income figure.

When the survey questionnaire was completed, the researcher went through it again to check whether respondents were to regard some questions as ambiguous, leading, too personal judgmental or capturing more than one notion. After all the aspects were considered, demographic data (for instance, gender, age, marital status level education among others) were included at the top of the questionnaire, despite the fact that it is normally preferable that such information is collected at the end of the survey instrument.

4.5.2. The Choice of Response Options

Since the study used closed-ended questions, careful consideration was done regarding the response options that were to be provided to respondents. The responses were generally a set of mutually-exclusive categorical selections. This mutual exclusivity was applied, for example under income, where categories were created as: R21000 – R30000; R31000 – R40000; and so on. Such classifications removed the likelihood that more than one response option can apply to one respondent. Furthermore, these classifications of responses captured all possible choices, for example, the first option was "Less than R10000" and the last option was "More than R50000". Additionally, these options were also carefully worded in order to avoid vagueness when respondents interpreted the questions and also to reduce the possibility of invalid responses.

A Likert scale was also used as a way of structuring the response choices. Lower scores reflected respondents' disagreement with the statements while higher scores reflected participants' agreement with the statements. Thus, the scores here implied that the mean scores, which were also calculated in this study, reflected respondents' level of agreement or disagreement with the statements (Converse & Presser 1986). Accordingly, a 5 point Likert scale Likert Scale (with 1 = Strongly Disagree; 2 = Disagree; 3 = Neutral = 3; 4 = Agree and 5 = Strongly Agree) was preferred because its usage makes it easy for one to code the data and report it back as codes, which are simply assigned to the responses.

4.5.3. The Format of the Questionnaire

The arrangement of a questionnaire tends to influence how respondents find it easy to read, comprehend and respond to every single question asked (Colosi, 2006). For this reason, the format of the questionnaire heavily impacts the quality of the collected data. It has been suggested that if there is sufficient time, the instrument must be piloted in advance of carrying out the main study in order to recognise some problem areas in both the content and the format of the inquiry form (Colosi, 2006). The following tips, as suggested by Schwarz and Oyserman (2001), were applied to the current study:

i) The outside cover had an informative outline or clear introduction on the research topic, drive behind the study and it also explained how the collected data was to be used (i.e., for academic purpose only). This transitory introduction assured respondents that their private information was to remain confidential and all responses and it also guaranteed anonymity of responses.

ii) After the cover page, the second page sought written consent from respondents. The respondents were asked to sign with an "X" to show that they understood the aims of the research and therefore consented to participate in the study.

iii) All the instructions were framed in bolded italics. This was done to differentiate instructions from questions.

iv) The questionnaire comprised of three different sub-sections. The first section contained questions relating to demographic information; the second section contained the study constructs or variables while the last section was about general information.

v) There was no need to place descriptive definitions or texts in a parenthesis as

questions were fairly clear and no ‘big’ words were used. Besides, the researcher was available to answer any questions from respondents during the data collection process.

vi) All the measurement items covered the most paramount issues of interest. The first items had more general questions. In the middle and towards the end of each construct, questions with greater specificity were asked.

vii) The flow of the questions was kept, with each instrument being sound, and making it easy to follow from each instrument to the next.

The inquiry form for the current study guaranteed that every single question contained within the questionnaire gathered the necessary data as suggested by Taylor-Powell (1998). Overall, the researcher thought about the conceivable disparity in the literacy level of respondents as well as any likely language barriers that were bound to affect the effective administering of the survey questionnaire. The researcher expected that many consumers were fairly literate – i.e., they had at least primary education. Therefore, a good survey design should pay attention to the respondents answering the questions (e.g., their literacy level, any language barriers, among other factors), together with the aim of the questions (i.e., outcome data and/or the demographics of respondents) (Colosi, 2006). The researcher was conscious of all these important aspects of effectively administering a survey as suggested by Taylor-Powell (1998). The researcher also realised the importance of having a questionnaire that had a good structure. Hence, the questionnaire was clearly structured and the directives were, likewise, easy to follow. The clarity of each survey question was to determine the quality of the collected data and therefore the researcher ensured that all questions were clear and on point.

4.6. Application of the Sampling Design: Data Selection and Collection Process

Data collection is the process of gathering and evaluating information on variables of interest, in a well-known methodical fashion that makes it possible for an individual to answer the specified research questions or problem statement, test hypotheses, and evaluate outcomes (Northern Illinois University, 2014). Data collection is, in essence, about gathering useful data from an appropriate target sample. This section provides a discussion how the data was collected for the current study.

4.7. The Importance of Guaranteeing Proper and Accurate Data

In each and every field of study, correct data is indispensable to guarantee the integrity of the research. The choice of relevant data collection instruments (prevailing, altered, or newly developed) and clearly defined guidelines for their accurate use may lessen the possibility of errors taking place (Northern Illinois University, 2014). In addition to how the data was collected, this section will also provide information on where and when the data was collected as well as the individual who was responsible for gathering the necessary data. A brief discussion on the measures that were taken by the researcher to warrant that the data collected was accurate and would yield dependable results was provided – i.e., a discussion on consistency checks. Importantly, this section discussed how ethical issues were applied practically before and during data collection procedure. This was done so as to guard against interfering with respondents' rights as specified in the University's ethical code for research.

In order to get unequivocal, unbiased and the right data from the respondents, the researcher observed specific precautions prior to the actual research. The researcher was aware that dealing with human beings, particularly customers, necessitated a high volume of patience, friendliness, humbleness, politeness in order to create good rapport with participants. The researcher also verbally assured respondents that their identity and responses were to remain anonymous or undisclosed at all times. Prior to the distribution of survey forms to the target sample, the researcher also took note of the following:

- *Expert Assistance* – The researcher sought assistance and/or educated insight from the principal supervisor on whether or not the measurement instruments utilised were meaningful and whether or not there was face validity in the survey questions. It was only after the supervisor had accepted that the research instruments and their items appeared plausible, and also after the same instruments were approved by the Ethics Committee that the researcher started the data gathering process.
- *Protocol Requirements* – The researcher acquired the necessary authorisation from the respective store headquarters at the different organic food retail outlets. Where an authorisation letter was not obtained from the store managers, e.g. at Spar, respondents were approached as they went out of the store. This authorisation letters were submitted to the University's Ethics Committee in order to meet the protocol requirements before an ethics clearance certificate was granted. Permission was also sought from the store managers of different branches, even though permission was

already granted by officials from the head office of that specific retail outlet.

- *Reliability* – Consistency during data collection was necessary in ensuring that all participants interpreted the research questions similarly at all times. This was safeguarded by encouraging participants to ask questions whenever they were uncertain of what the question was asking, or if they were not certain of the meaning of some words that were used in the survey questionnaire.
- *Validity* – After doing a number of checks prior to data collection, the researcher became confident measurement instruments were to generate valid data as the instruments were perceived to measure what was being measured. Undoubtedly, the collected information was relevant to the questions that were asked. Validity was also guaranteed because minor alterations were made to the already valid and adapted instruments, which was deemed valid by Olivová (2011).

During data collection process, the following were avoided:

- *Reactivity* – The way the survey questions were structured did not seek to modify participants' responses. The presence of the researcher on the field also did not tamper with the responses of participants as, in a quantitative study; a researcher is not *immersed* into the study. Additionally, the presence of the researcher on the field was to provide clarifications to any questions that the respondents found to be unclear.
- *Bias* – As random sampling technique was used, there was a limited chance for bias to creep in and hence it can be said that the researcher was not biased in the selection of research participants.

4.8. Participation of Respondents in this Study

Participation in this study was totally voluntary. In order to ensure that responses came from a representative sample, the inquiry forms were distributed at different times and dates, for instance in the morning – when the retail stores opened, during lunch and during the day as well as in the evening (after work). The respondents were urged to fill the survey questionnaire **honestly** (i.e. the researcher asked them to provide the authentic answers – to the best of their understanding and ability). This ensured that correct data was extracted and so that the users would have faith in the findings of the current study. The problem experienced with gathering data during lunch was that many consumers were rushing – they wanted to quickly buy something and go back to work. Even though some were willing to

participate, they were constrained by the lack of time and hence could not spare 10-15 minutes of their time to complete the feedback form. However, a lot of responses were obtained in the morning and during the day (after lunch). Just before lunch, many consumers were also rushing to pick up their children from school and hence could not have time to go through the feedback form. After work, many consumers were also rushing to get home and complained about getting stuck on traffic. However, other consumers took the questionnaire with them and promised to email their responses. A few responses were received via email, but overall, the response rate was bad –i.e., in terms of emailing back the filled responses.

The data was collected on different days and times across different organic food retail outlets. The process started on the 22nd of October 2014 and ended on the 2nd of December 2014. Moreover, it was the researcher's responsibility to distribute and collect all survey questionnaires. A total number of 305 valid responses were collected (further information is provided on the data analysis section).

During the data collection process, two consumer reactions stood out.

i) In Cresta Mall the researcher experienced derogatory comments from some consumers. When approached (not to mention the race of those individuals), the consumers immediately said (without hearing what the researcher was about to say), "Sorry, I don't have money". Others said, "Sorry, I don't have a donation" and such consumers usually walked away. Since the researcher was carrying some questionnaires, it made sense that consumers thought they were being asked for financial help. The researcher saw that many respondents were lost because they had a preconceived idea that someone who stops them within the store or mall is looking for money and thus the researcher developed an *on-field strategy*. The researcher started to greet consumers with a student card on the hand and then explained the purpose of the greeting and/or interruption. Ever since the implementation of this *new* strategy, consumers were receptive and many responses were gathered thereon.

ii) A security within one retail outlet accused the researcher of 'harassing' consumers by stopping them. The security did not understand the purpose of the study. Irrespective of the fact that the 'interrupted' consumer confessed that they were not harassed, the security went on to call the store manager. However, the issue was resolved by the store manager (as the researcher had sought permission from the store manager, prior to handing out questionnaires to consumers) and the data collection process continued.

Other areas where the data was collected included Sandton mall, Rosebank mall and in the branches of the "Big 4" retail outlets, in Johannesburg central. Having discussed the above section on data collection, it is also necessary to identify some pitfalls of collecting data in a wrong way, for example, in an unethical way. The following shows some of the drawbacks of incorrectly gathering the research data. Therefore, the downsides of wrongly collected data include:

- failure to accurately answer research questions or address the problem statement
- inability to duplicate and confirm the study findings
- biased findings leading to a waste of resources
- misleading other scholars to follow ineffective avenues of analysis
- falsely guiding decisions for public policy
- eliciting harm to participants

The current study guarded against the above drawbacks, as they would have spelt doom to the entire study, resulting in the research objectives not being met – i.e., being a waste of time and resources. The following section will touch on some of the ethical issues associated with the current study.

4.9. Ethical Considerations and Ramifications

Ethical consideration refers to the protection of the participants' rights, obtaining informed consent and the institutional review process of the ethical approval (Klopper, 2008). The reality shows that there can be ethical considerations at every step of the research process. Firstly, it became important for the researcher to consider whether the study had any inherent ethical implications, for example – is the study controversial or sensitive? At times the study should be adjusted in order to avoid certain ethical dilemmas (http://www.sagepub.com/upm-data/26094_3.pdf). As a result, prior to embarking on a study topic, the researcher addressed some specific ethical ramifications. Accordingly, the researcher took time to consider these ethical ramifications, modified the study in a manner that did not tamper with these implications and implemented the specific guidelines for an ethically sound research project.

4.9.1. Research Ethics Review at Wits University

The current study involved human participants and hence it was necessary for the study to go through the University's ethics review process. This was done so as to match the level of review with the level of identified potential harm. The research ethics committee at Wits

meets only at specific dates and the necessary documentation ought to be submitted one week prior to the meeting date. The relevant documents that were to be attached were accessed on the University's website: http://www.wits.ac.za/Academic/Research/Applications.htm. After the necessary documents were filled, signed by the principal supervisor and after the authorisation letters from the different retailers were provided, the researcher consulted the Human Ethics Research Ethics Committee (Non-Medical) at the above University. The research proposal was judged or considered to have *minimal or no risk*. This simply implied that there was no need for an in-depth ethical review as there were no concerns, particularly with regards to sensitive issues.

- *Ethical Approval* – No data was collected before an ethical clearance certificate was granted by the above committee. This certificate provided a go-ahead to the researcher and it indicated that the minimum ethical requirements were met. The ethical guidelines and codes were strictly followed, particularly during the data collection process, in order to avoid tampering with University's ethical codes.

The researcher obtained the Ethics Clearance certificate on the 25th of September 2014 from the designated Ethics Committee at Wits University. The Protocol Number was H14/08/13 and a copy of the certificate is attached in Appendix IV below.

4.9.2. Fundamental Ethical Codes for Studies Relating to Human Participants

A summary of the fundamental ethical codes applicable to research relating human subjects is provided in the Belmont Report (1974) as follows:

- **Respect for Persons** – This principle emphasises the fact that individuals must be treated as separate agents. The researcher has an obligation to make sure that all respondents receive full disclosure of the benefits, alternatives, risks and the nature of the study, with an extended chance for the subjects to ask questions. The researcher also ought to protect people with diminished autonomy (for example, children, students, prisoners) must not be manipulated or forced to contribute to the study.
- **Beneficence** – The study ought to exploit conceivable benefits and curtail potential harms. The researcher gave forethought to the maximisation of benefits and the minimisation of risk that may have ensued from the research.
- **Justice** – This relates to the fairness in the distribution of survey questionnaires, as bias may affect the credibility of the results. Injustice in research may also happen when some burden is unduly imposed or when an individual is denied some benefit to

which he/she is entitled without any good reason. In the current study, there was impartial selection of the study participants.

To add onto the above discussion, the following risks and responsibilities were discussed.

4.9.3. Responsibilities and Risks

When doing an ethical review, it may as well be worthwhile to explain it using an analysis of responsibilities and risks. The responsibilities lie primarily with the researcher while the risks may emanate from both sides. The researcher was *responsible* for triggering something with regard to the conduct of the participants while the participants considered:

- the likely *risks* that they (or the researcher) might be bring about; and
- how the researcher was to take *responsibility* to address any potential risks.

The risks may be either psychological or physical. According to http://www.sagepub.com/upm-data/26094_3.pdf, the investigator is responsible for ensuring that:

- the risk level is warranted by the relevance and significance of the study;
- the risk is inevitable when taking into account the objectives of the study;
- the risk level is reduced in absolute terms
- respondents are fully aware of the nature and level of the risk in advance of agreeing, or freely taking part in the study;
- the necessary precautions are ready to sufficiently deal with the effects of participation.

As aforementioned, these risks can also be physical, nevertheless they more likely to be psychological, and linked with, for example, disclosure of personal information, maintenance of confidentiality, evoking painful memories, discussion of sensitive topics, discomfort and uncertainty as well as voicing of annoying opinion.

4.9.4. The Fundamental Principles of Ethical Research Practice

The following are the basic principles that summarises the main aspects of an ethical research practice and they are discussed below:

a) **Informed Consent –** There was informed consent from subjects prior to them taking part in the current research. This meant that they knew exactly what the researcher asked them to do, and the likely risks, **prior to** agreeing to take part in this study.

An **Information Sheet** was used to potential respondents with the relevant information about the study. This information sheet was written at the right reading level for the specific group of prospective respondents. Proper guidance on how to prepare this information sheet, general guides on research ethics as well as the guidelines on how to prepare a written consent form (that was to be signed by respondents) were available from the Human Research Ethics Committee (Non-Medical) – at Wits University. The information sheets covered the following:

- The name of the researcher; from which University; and what the study was about.
- Respondents were told why/how they were chosen, prior to being invited to take part.
- They were informed that even if they agreed to take part in the survey, they were free to change their mind, with no expectation of an explanation from them.
- The sheet detailed that they were to be asked about their intentions to buy organic food and that, should they decide to participate, they should expect questions to be around organic food purchase intentions
- Respondents were assured of the high level of confidentiality and anonymity.
- They were told that the information was to be used for academic purposes only, that it was to be stored as an electronic file for as long as the University's requirements for granting a degree were met. Furthermore, data storage was to comply with the South African Data Protection Bill of 2006 as well as the University's Data Protection Code.

ii) No Pressure on Persons to Take Part – Although incentives to participate must not be provided, the current study incentivised respondents with Wits branded pens. Respondents were not lured into participating by promising them pens, but it was only after completing the questionnaire that the researcher told them to keep the pen. Hence, these incentives were not deemed unethical and they did not encourage individuals to take part – e.g., those who would have preferred not to participate. Besides, not all respondents took these pens, as others were not keen on keeping them – citing that they have enough pens. Moreover, the researcher did not rely on the consent of gatekeepers, for example, store managers. The store managers' consent was necessary prior to handing out the survey questionnaires to participants, but *individual* potential respondents were fully informed and were also given an option of not participating – hence, there was no pressure on them to participate in this study.

iii) Respect Individual Independence – Independence in this context refers to an individual's freedom to decide what to do. As abovementioned, though respondents had

signed a Consent Form, the researcher made them aware that they were allowed to withdraw from the study at any time, *without providing a reason*. The researcher also verbally told the respondents that they can as well request that their data be excluded from the study. The researcher was also prepared to eliminate the data already given, if this was requested by respondents.

iv) Avoid Instigating Harm – The researcher honoured this duty of not causing harm to respondents. Overall, there were no direct vulnerabilities that were incurred by the participants who contributed in the survey of the current study.

v) Maintenance of Confidentiality and Anonymity – 'Confidentiality' is about the protection of collected data (Ghauri & Gronhaug, 2002). In any research endeavour, confidentiality of the data must be respected. However, it is not always easy to guarantee the level of confidentiality. Respondents were assured that the collected data was to be kept safe and no unauthorised individuals were to have access to it. Making data 'anonymous' refers to getting rid of the participant's name – a basic step used to protect a contributor's identity (Ghauri & Gronhaug, 2002). The researcher was also mindful of the fact that other relevant data (especially demographic information) can be used to identify individuals, for example, gender, age and home language among others. Therefore, when these pieces of information are presented together, it can be easy to identify someone – hence anonymity is justified. The other aiders that were noted included the job title, length of service, strongly expressed views, membership of clubs. Fortunately, these aspects did not apply to the current study.

There was no request for any identifying information from respondents in order to protect their identity, for example, no name, signature (respondents were to show their consent to participate through signing with an "X"). Furthermore, the researcher took as many precautions as possible in order to protect the anonymity of respondents. Only the level of anonymity that the researcher was able to realistically provide was promised.

- *Is it at times tolerable to be identified?* – Grinyer (2002) challenged the idea that anonymity ought to be the default position during the process of data collection. Her argument was that in some research contexts, it may be likely that respondents may become eager to let their responses be acknowledged, and may be glad to have their identity made known along with their input to the study. However, the guiding standard is that respondents should be in control of the

disclosure of their contribution to the study and their identity.

- *Data protection* – The researcher strictly adhered to the University's guiding principles that ensures that confidentiality of information and anonymity of respondents is guaranteed, not tampered with and is respected at all times.

vi) Particular Care must be taken with Vulnerable Groups – This principle highlights the fact that researchers must think about vulnerability in its broadest sense. Care should be taken when dealing with children, patients, or recently bereaved individuals (Grinyer, 2002). Nonetheless, other individuals may be vulnerable owing to specific contexts, for example, dependents, employees, students, or people with specific traits that might be subjected to prejudice.

vii) Protection of Humans (i.e. participants) – According to Chapter II of the South African Constitution No. 108 of 1996, human beings have rights that should be respected and violation of such rights may result in legal action against the lawbreaker. The rights applicable to research may include:

- the right to privacy (e.g. of sensitive information), the right to fair treatment, the right to protection from discomfort and harm, right to autonomy and confidentiality, the right to self-determination as well as acting in good faith through the disclosure of material information. The researcher acknowledged and safeguarded these rights, particularly during the data collection process.

4.9.5. Applicability of Ethics in the Research Process

According to Blaxter, Hughes and Tight (2001:159), a common basis of ethical challenge stems from the *'conflicts of interest between the researcher and the researched'*. The argument here is that the investigator might be enthusiastic about the research idea, and be excited to gather in-depth high quality information from the targeted sample. Some of the ethical dilemmas in a study may include lack of informed consent, misconduct in research, conflicts of interest. However, Blaxter et al. (2001) suggested that there is a danger in that the researcher may be tempted to use unethical research practices to try to get the much needed data. This may result in the breach of ethical codes and guidelines as explained below:

4.9.6. A Grave Issue

A breach of ethical codes and guidelines, or a significant deviation from the initially approved research proposal may perhaps cause harm to a research participant(s) (Ghauri &

Gronhaug, 2002). Additionally, these issues are regarded as serious matters in the University and/or the broader public. The typical ramifications could be:

- failure when being examined – i.e., the researcher will not pass, if the study is academic-related;
- refusal to publish the research findings;
- damage to the ethical and academic reputation of the University and the researcher.

The researcher was mindful of these grave issues and the conceivable implications of an unethical research project. Accordingly, such issues were avoided at all costs together with the ethical dilemmas as explained above.

Based on the strict guidelines that were followed throughout the entire data collection process, the researcher became confident that the study was conducted in the most ethical way – hence, no harm happened as a result of this study. The next section elaborates further on how reliability and validity of the instruments for the current study was checked.

4.10. Reliability and Validity

Reliability and validity are two vital elements in the evaluation of a measurement instruments. Reliability focuses on the ability of an instrument to consistently measure something while validity is about the extent to which an instrument measures what it is intended to measure (Tavakol & Dennick, 2011). Notably, the reliability of an instrument is closely linked with its validity. Furthermore, an instrument cannot be valid if not reliable, though the consistency of an instrument does not hinge on its validity (Nunnally & Bernstein, 1994). However, internal consistency is an essential but insufficient condition for measuring Unidimensionality or homogeneity in a sample of investigation items (Cortina, 1993; Green, Lissitz & Mulaik, 1977). A critic of Cronbach's α submitted that it may under- or over-estimate reliability (Raykov, 1998; 2001). Primarily, the theory of reliability assumes that:

'Unidimensionality exists in a sample of test items' (Miller, 1995)

A major underestimation of reliability happens if this assumption is violated and α may fail to confirm whether or not a sample of items is, in fact, Unidimensional (Cortina, 1993).

Consistent with the two-step procedure suggested by Anderson and Gerbing (1988), Byrne (2001) along with Jöreskog and Sörbomin (1993), prior to testing the postulated hypotheses in the conceptual model, CFA was done to check the reliability (in this case Composite

Reliability (CR), validity (Average Variance Extracted (AVE) and in this case, both convergent and discriminant validity were computed) along with model fit of the multi-item variable measures. The section below discusses how the Cronbach's alpha (α) values were computed, then provides a full description of the computation of CR values and lastly checks the validity of the instruments through the calculation of AVE values.

4.10.1. Reliability: Cronbach's Alpha Analysis

Reliability is about getting the same findings over several applications of the same study, i.e., the trustworthiness and stability or consistency of the data (Kalof, Dan & Dietz, 2008). Cronbach's α, as an index of reliability, is a traditional reliability measure that evaluates the likelihood that the employed measurement procedure for the construct will deliver the same account of a specific phenomenon when the measurement is repeated (Cronbach, 1951). Furthermore, internal consistency defines the extent to which all the items in a test measure a similar variable or concept and therefore are linked to the inter-relatedness of the items in the test (Tavakol & Dennick, 2011). Internal consistency should be assessed before a test can be done for research purposes, in order to warrant validity. The Cronbach's α, like the CR value is usually expressed as a number that ranges between 0 and 1 (Jöreskog & Sörbom, 1993).

4.10.1.1. Effective Use of Cronbach's α

Literature suggests that an appropriate application and interpretation of α is not evidently understood (Cortina, 1993; Nunnally & Bernstein, 1994; Schmitt, 1996). This lack of proper comprehension of the concept has made alpha to be frequently interpreted or reported in an uncritical way (Tavakol & Dennick, 2011). Inappropriate use of alpha can result in circumstances where the test is either criticised for not engendering reliable results or a scale becomes incorrectly rejected (Tavakol & Dennick, 2011). To circumvent such a situation, the researcher made an effort of first understanding the concepts related to internal consistency, Unidimensionality and homogeneity, in order to improve α utilisation in this study. A measure is termed 'Unidimensional' if its items measure one unobserved variable or trait (Tavakol & Dennick, 2011). However, a high α value does not warranty Unidimensionality.

There are basically two versions of α: normal and standardised. This study concentrated on the normal α values, which were applicable when items were condensed to create one score for that particular scale (Cronbach 1951). Previous studies proposed that α coefficient values must exceed 0.60 so as to make it evident that all constructs reached satisfactory or

acceptable reliability measurement scores (e.g. Kline, 2000; Nunnally, 1967). Conversely, some studies underscore the fact that the Cronbach's α value should be above 0.70 in order for it to be statistically acceptable (Byrne, 2006). Nunnaly (1978) also specified 0.7 to be an established reliability coefficient. However, just like Hair et al. (2007), Nunnaly (1978) also suggested that lower thresholds are at times used in the literature and are therefore acceptable. Briefly stated, according to Henson (2001) as well as Lance, Butts and Michels (2006), together with other notable researchers, it appears as if the fairly common Cronbach alpha values have been described as follows:

- $\alpha \geq 0.9$ Excellent, but not always desirable (Scores exceeding 0.9 may indicate redundancy in the scale questions (Tavakol & Dennick, 2011) and a maximum α value of 0.9 has been suggested (Streiner, 2003).
- $0.7 \leq \alpha < 0.9$ = Good
- $0.6 \leq \alpha < 0.7$ = Acceptable
- $0.5 \leq \alpha < 0.6$ = Poor
- $\alpha < 0.5$ = Unacceptable

It should be noted that the acceptability of the Cronbach's alpha can also be determined by the type of research, for example, values are lower in social sciences compared to health sciences (Tavakol & Dennick, 2011).

4.10.2. Composite Reliability

Composite reliability (CR) is the sum of a true score variance with respect to the total scale score variance, i.e., it reflects the amount of scale score variance, accounted for by all the principal elements (Bacon, Sauer & Young, 1995). As α is not a "desirable' estimate of reliability of a scale, owing to its weaknesses, for example, that of under-estimating reliability (Green et al., 1977; Miller, 1995; Raykov, 1997; Streiner, 2003a), CR has become the next best alternative of reliability estimate (Fornell & Larcker, 1981). Even Cronbach (2004:402) did not reject the assessment of a downward bias in coefficient α owing to "a small mathematical detail that causes the alpha coefficient to run a trifle lower than the desired value." CR is frequently calculated in conjunction with SEM. Therefore, when true reliability was projected in the study through the use of SEM. Accordingly, the ensuing estimate was termed composite reliability. In SEM terms, the consistency of an indicator is characterised as the variance in the indicator that is not explained by measurement error (Miller, 1995).

4.10.2.1. Composite Reliability: A Superior Alternative to Cronbach's α

The claimed benefits of a SEM approach consist of "better" (usually larger) estimates of true reliability than those from coefficient α. This is due to the fact that the standardized regression weights or loadings can vary under SEM, while the correlation coefficients (i.e. link of every single indicator with the composite or construct factor) for coefficient α are constrained to be identical (Peterson & Kim, 2012). As a result, SEM is capable of empirically assessing and overcoming some of the restrictive assumptions of coefficient α (Raykov, 2001). Therefore, CR was chosen based on Peterson and Kim (2012)'s finding that it indisputably produces a 'better' (i.e., larger) estimate of correct reliability than coefficient α under the same research environments. However, Peterson and Kim (2012) further cautioned that despite the fact that CR values were found to be larger than equivalent coefficient α values, assertions that coefficient α grossly undervalues true reliability when compared to CR should not be over-emphasised.

The current study also computed the CR values for each variable. The estimates or standardized regression weights of the default model were used to calculate the CR values, through the application of the following formula, as suggested by Fornell and Larcker (1981):

$$CR\eta = (\Sigma\lambda yi)^2 / [(\Sigma\lambda yi)^2 + (\Sigma\varepsilon i)]$$

Where $CR\eta$ = Composite reliability,

$(\Sigma\lambda yi)^2$ = Square of the sum of the standardized regression weights,

$(\Sigma\varepsilon i)$ = Sum of error variances.

Hair et al. (1998) posited that the minimum recommended threshold for CR values should be above the 0.70. This is consistent with Hulland (1999) who suggested that the CR value for constructs should be above the 0.7 for them to indicate an acceptable reliability and internal consistency of the corresponding measures. However, Tseng, Dornye and Schmitt (2006) suggested that CR values should be in at least 0.6 to justify internal consistency. Accordingly, the current study considered all the perspectives of the above researchers and hence the threshold to be met was $0.6 \leq X > 0.7$.

4.10.3. Checking Validity

The measurement model checked both convergent and discriminant validity. According to Hair et al. (1998), validity is about measuring the degree to which each variable is properly measured and measures what it claims to measure. The current study placed more attention on two kinds of validity – convergent validity and discriminant, despite the fact that there are innumerable techniques available to measure the validity. This was due to the fact that the nonexistence of discriminant validity lowers confidence in the study results, and much emphasis should be placed upon discriminant validity to guarantee the distinctiveness of measurement instruments. Nonetheless, convergent validity was not disregarded, as it was deemed vital for constructs to converge well with each other.

- Convergent validity is, essentially, about the extent to which the measure of a construct is correlated with other measures of the same construct, i.e., ≥ 0.5 (Fornell & Larcker, 1981). The measurement items of the construct were theoretically estimated to show a link (i.e. ultimately, they should correlate highly), so that all of them are deemed to measure the same construct (Anderson & Gerbing, 1988).
- Discriminant validity essentially puts forward the fact that each measurement instrument should effectively differentiate the construct being premeditated or studied from other alike constructs (Hair et al., 1998). This implies that every single construct must be distinctive and there ought to be no multicollinearity between the study constructs. The rule is that a correlation ≥ 0.85 indicates poor discriminant validity in SEM (http://shodhganga.inflibnet.ac.in/bitstream/10603/26470/10/10_chapter5.pdf) and this may show signs of severe multi-collinearity.

4.10.3.1. Convergent Validity

To determine whether there is convergent validity, corrected item-to-total correlation was used. A very low item-to-total correlation value indicates that the item is diverging, or not converging well with others. A preferable item-to-total value is the one that is > 0.5. Therefore, the above can be summarised as follows. A(n): –

↑ Corrected item-to-total correlation (> 0.5) = ↑ Convergent validity

↓ Corrected item-to-total correlation (< 0.5) = ↓ Convergent validity

In line with Chin (1998), convergent validity can also be demonstrated when all the standardized regression weights of same construct are more than 0.7. Furthermore, in order to

justify the existence of convergent validity, AVE must be at least 0.5 and CR must be greater than 0.7 for all variables of a measurement model.

Under normal circumstances, AVE varies between 0 and 1, and the computed value signifies the ratio of the total variance as a result of the unobserved variable. According to Fornell and Larcker (1981), all constructs must have an AVE of no less than 0.5. An extracted variance in excess of the 0.50 threshold is also recommended by Hair et al. (1998). Likewise, Dillon and Goldstein, (1984) suggested that an AVE value beyond 0.50 shows that the (convergent) validity of the variable is high. It seems as if Fornell and Larcker (1981)'s method characterizes the best method to apply Farrell (2009)'s suggestion. Even though an AVE value of above 0.5 seems to be the established threshold, Fraering and Minor (2006) suggested that an AVE value of at least 0.4 is marginally acceptable. Therefore, the current study used the following threshold for the acceptability of AVE values: $0.4 \leq X > 0.5$.

AVE offers a more accurate and stringent valuation as it takes into account the effect of measurement error. In order to compute the AVE values, the current study used following formula as suggested by Fornell and Larcker (1981):

$$V\eta = \Sigma\lambda yi^2 / (\Sigma\lambda yi^2 + \Sigma\varepsilon i)$$

where:

$V\eta$ = Average Variance Extracted (AVE),

$\Sigma\lambda yi^2$ = Sum of the squared correlation coefficients,

$\Sigma\varepsilon i$ = Sum of error variances.

4.10.3.2. Discriminant Validity – Discriminant validity is the degree to which a latent variable differentiates 'itself' from other unobserved variables, i.e., a latent variable should be able to account for more variance in the observed variables associated with it (Fornell & Larcker, 1981). Therefore, discriminant validity is critical for conducting latent variable analysis (Bollen, 1989). Without it, it is difficult for investigators to be certain whether results that validate the postulated structural paths are real or whether they are as a result of statistical incongruities. The construct and individual indicators become questionable if discriminant validity is not established. Moreover, a lack of discriminant validity may imply that measurement scales used in research may function incorrectly, making the researcher to draw incorrect conclusions. That is why Farrell (2009) calls for an evaluation of discriminant validity in managerial research.

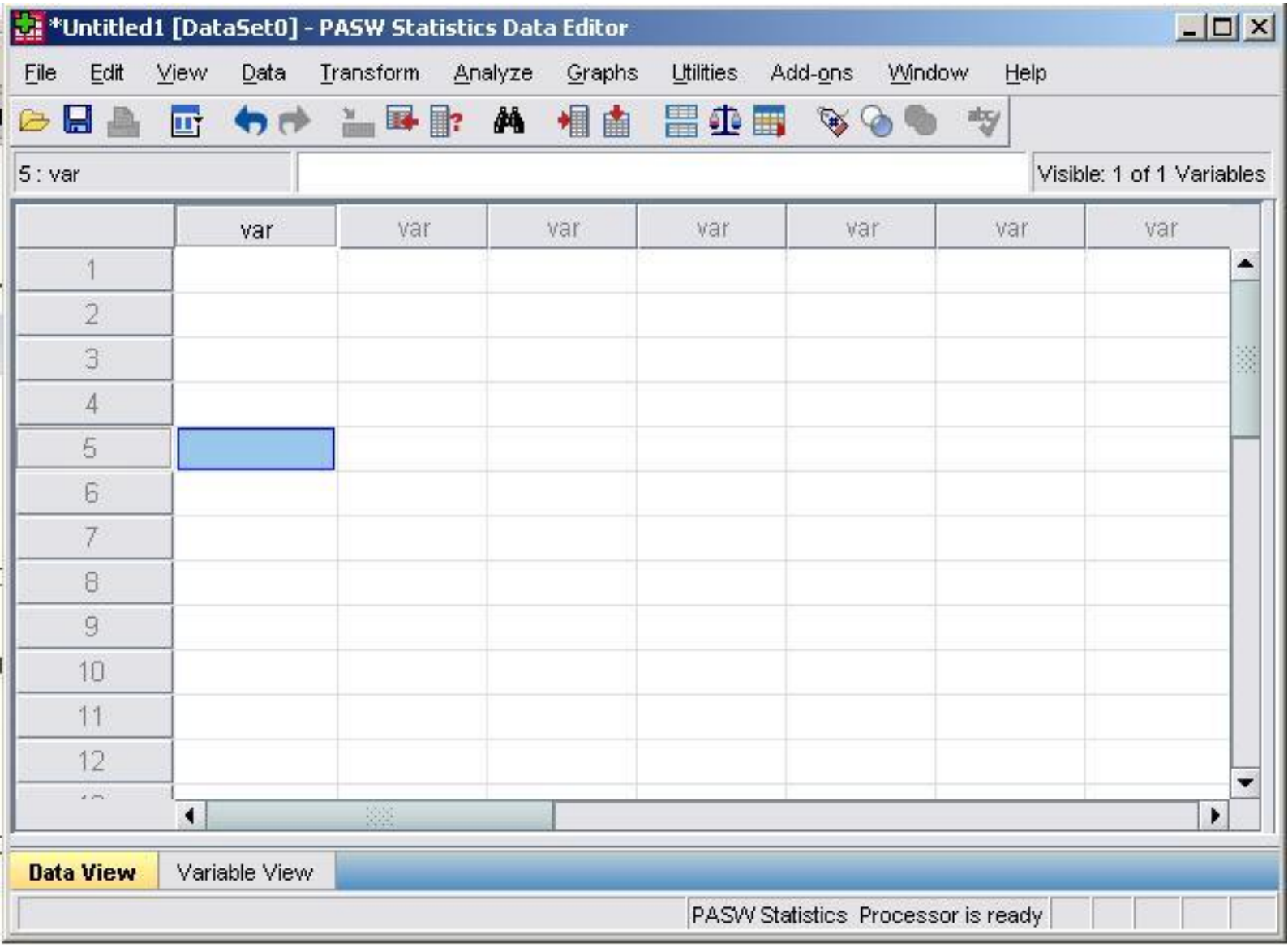
- **The Assessment of Discriminant Validity [AVE] –** "Discriminant validity is assessed by comparing the shared variance (squared correlation) between each pair of constructs against the average of the AVEs for these two constructs" (Bove, Pervan, Beatty & Shiu, 2009:702). In general, this correlation is regarded as a factor loading. CR and Average Variance Extracted (AVE) are related in that CR approximates the degree to which a set of unobserved variable indicators share in their valuation of a variable, whereas AVE is the amount of common variance among unobserved variable indicators (Hair et al., 1998). The correlation matrix was also used to check whether discriminant validity existed. The constructs were not supposed to correlate highly with each other, i.e., ≥0.85, as this would have displayed problems of multi-collinearity.

The following section further elaborated on the statistical methods that used to analyse the data together with the software that was used to compute the results from the raw data.

4.11. Analysis of Demographic and General Information

Statistical Package for the Social Sciences (SPSS) is a Windows based program that was used to carry out data entry and analysis and ultimately tables and graphs were created (Landau & Everitt, 2004). It is a Graphical User Interface (GUI) that uses a command language. Moreover, the software remains a powerful, user-friendly data-management and statistical-analysis system within the graphical environment, owing to the use of simple dialog boxes and descriptive menus (Landau & Everitt, 2004). SPSS Statistics is capable of taking data from almost any kind of file and it uses this data to generate plots, charts and tabulated reports descriptive statistics, trends and distributions, as well as complex statistical analyses. The current study used SPSS Statistics Version 22 for descriptive analysis. The figure below (Adapted from: Landau & Everitt, 2004) shows the data view on SPSS spreadsheet.

Figure 4.13: The Data View Spreadsheet



4.12. Structural Equation Modeling: Definition of SEM

SEM or Covariance Structure Analysis is a statistical approach to testing hypotheses that relates to the correlations between manifest (observed or indicator) variables and latent (unobserved or denoted) variables (Hoyle, 1995; Marsh, Wen, Nagengast & Hau, 2012). SEM also includes other diverse techniques like Analysis of Variance (ANOVA), Multiple Linear Regressions in addition to causal modeling of latent variables (Khine, Ping & Cunningham, 2013). In line with Khine et al. (2013), SEM is a mixture of statistical techniques for modeling the multivariate rapport amongst variables. As a result, SEM is often regarded as a statistical technique that integrates components of conventional multivariate

model, e.g. Simultaneous Equation Modeling, Regression and Factor Analysis. This integration of other components implies that SEM goes beyond ordinary regression models to incorporate a number of endogenous and exogenous variables as well as the abstract latent constructs that may possibly be characterized by the groups of manifest variables. While traditional multivariate study techniques are incapable of either assessing or correcting for measurement error, SEM provides rich estimates of these parameters (Marsh et al., 2012). This shows the power inherent in this technique. Briefly stated, SEM pools together the characteristics of two models: (i) measurement model (CFA) and (ii) structural model (path modeling) into a synchronized statistical test (Hair Jr., Anderson, Tatham, & Black, 1998).

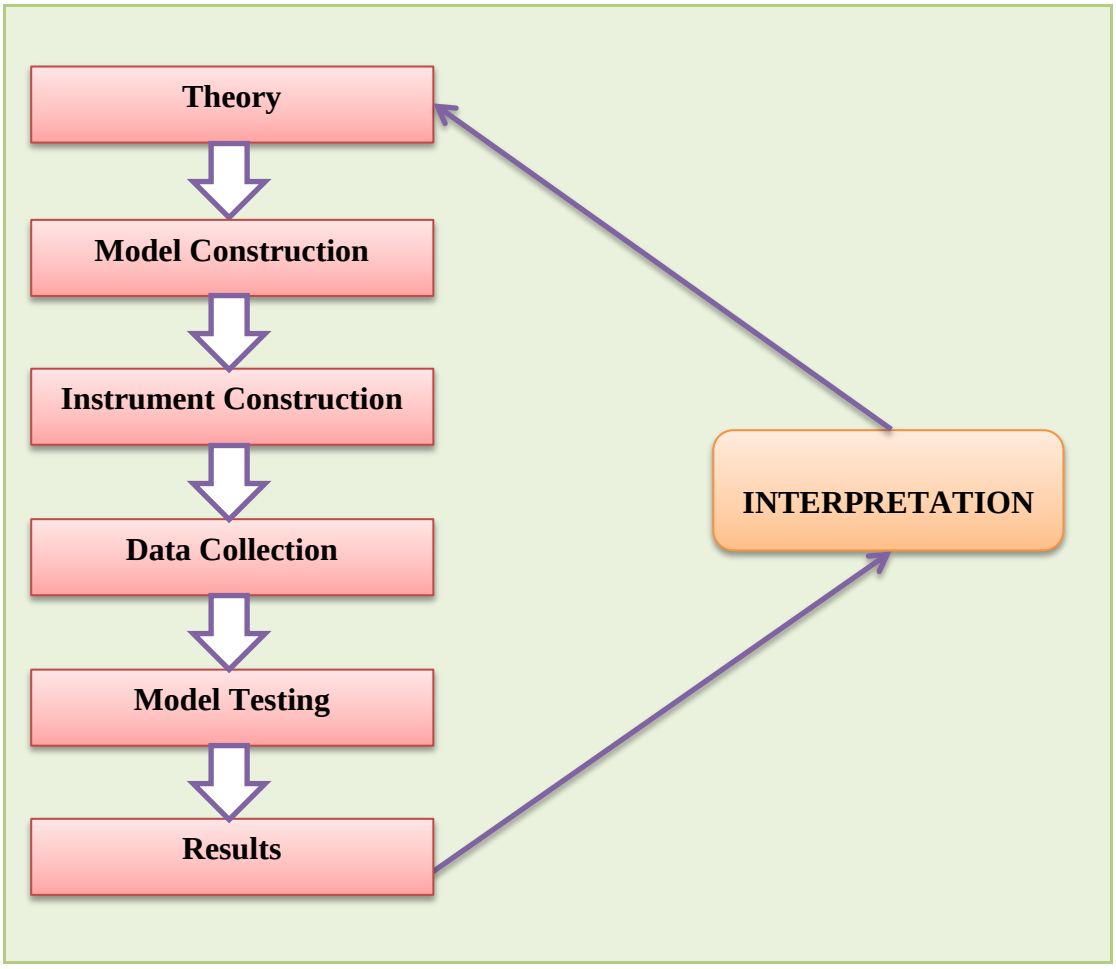
A structural model is the part of the model that connects factors or variables to each other, making it likely to make estimations. Manifest variables can be the data relating numeric responses to a rating measure item on a survey form, for instance, gender or height, whereas latent constructs are not observed plainly, although it is imperative for investigators to be aware of them. Unobserved variables may include consumer attitude, overall customer satisfaction, perceived value or price, and purchase intention among others (Khine et al., 2013). Moreover, SEM is a technique that takes a confirmatory methodology (for calculating reliability, validity and model fit) to the analysis of theory about what is being studied. Correspondingly, SEM's diverse statistical techniques also include path analysis (for computing model fit and hypothesis testing). Therefore, SEM can be viewed as a dual process – a process that starts with CFA and ends with Path Modeling/Analysis (Anderson & Gerbing, 1988). Also, SEM is a powerful and yet flexible addition to the General Linear Model (GLM) that permits investigators to instantaneously test a set of regression equations.

The software used for SEM (i.e., AMOS), could test traditional models, but then it also made it possible for more multifaceted models and interactions to be analysed, for example, CFA (Khine et al., 2013; Wothke, 1996, Statistical Support, 2001).

When the SEM software is used, the researcher should firstly specify the model on the basis of the theory (Khine et al., 2013). Subsequently, the researcher should decide on how variables are to be measured, decide how the required data will be gather, and after coding the gathered data, the researcher then imports the coded data into the SEM software package for CFA analysis first and then Path Modeling afterward. The fact that AMOS (the statistical software used) was designed to allow users to easily create and fit SEMs instinctively and

fast (i.e., GUI) made the researcher to find this statistical package as appropriate in addressing the research questions and test the hypotheses for the current study. The following figure shows a simple approach of applying SEM analysis.

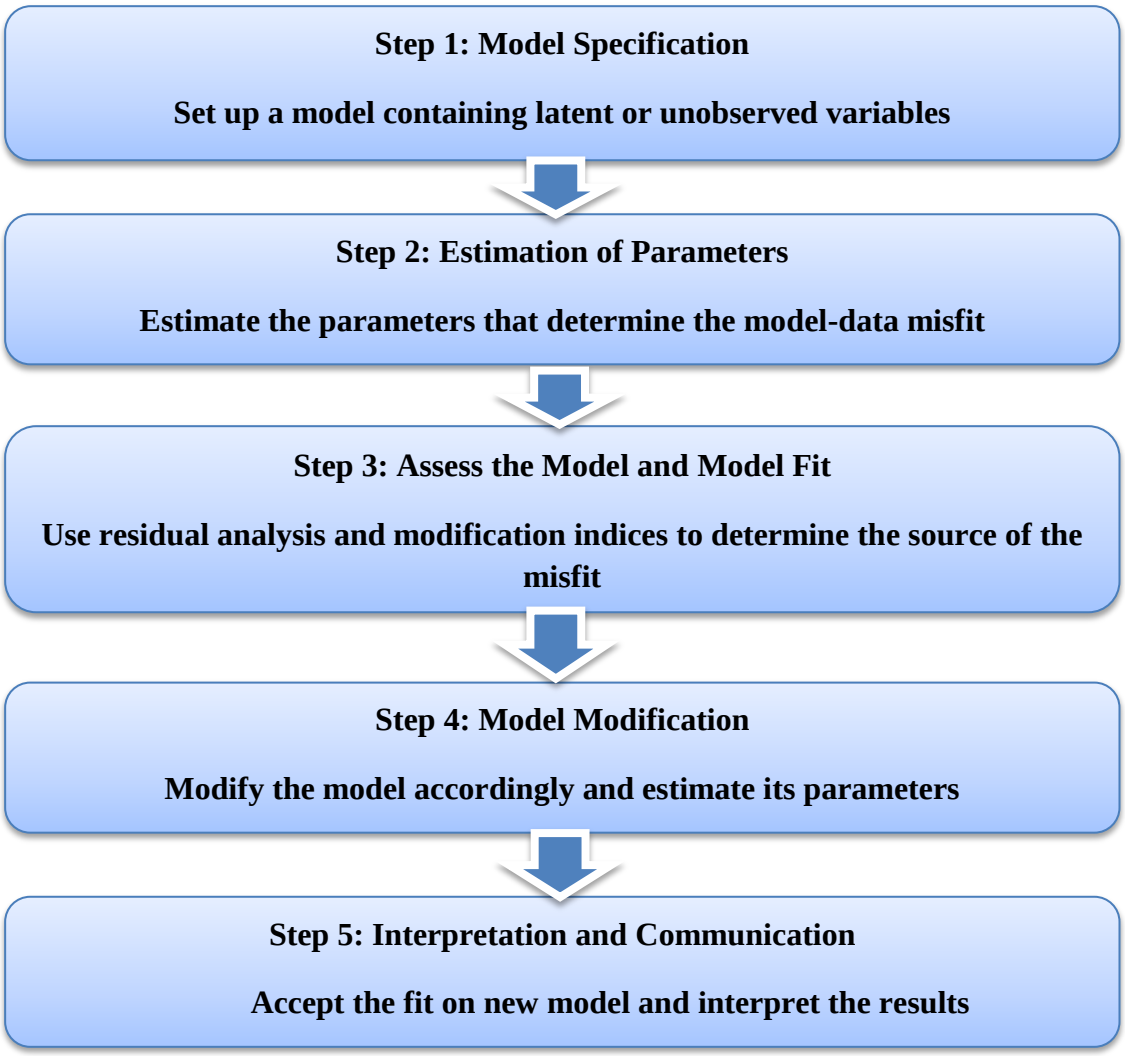
Figure 4.14: A Basic Approach to Applying a SEM Analysis



Source: Statistical Support, (2001)

The above figure suggests that a researcher must start with literature review, and then from the theory, a model should be constructed. Thereafter the instruments should be constructed (or in this case – adapted). Once the instruments are approved and are ready, the researcher can start collecting data. Thereafter, the investigator may start testing the hypothesised model. Therefore, the results would be computed and from these results, interpretation should be made in order to make sense of all the computations. Notwithstanding the above steps, Chinomona (2014) suggested that SEM approach follows the following steps:

Figure 4.15: Steps in the Execution of SEM



Source: Points taken from Chinomona (2014)

The above figure shows that there are basically 5 steps to follow when conducting a SEM analysis. As per the same figure, the first step is about specifying the model and this can be done by modeling both manifest and latent variables. Thereafter, it becomes imperative to estimate the parameters which are determined by model-misfit. Next, the model should be assessed as well as model misfit. This can be done by assessing the modification indices from the SEM output. A poor model fit implies that model modification should be the next step. The final stage is about accepting the 'new' model and thereafter, results must be interpreted.

Besides the two approaches above, Bollen and Long (1993) recommended a more succinct method to the application of the SEM analysis and this approach also has 5 steps which include: (i) model specification; (ii) model identification; (iii) parameter estimation; (iv)

model fit and (v) model re-specification. The current study adopted these steps and they were used to provide an overall outline of SEM analysis. Nonetheless, all the above procedures were considered in conjunction with this procedure, even though the current study placed more emphasis on the steps put forward by Bollen and Long (1993).

Prior to the discussion of the statistical package used in this study, it became important for the researcher to outline the purpose of using SEM.

In line with Hox and Bechger, (1998), SEM analysis has a dual purpose: To –

- get parameter estimates for the model – precisely, the correlation coefficients, variances, covariances and residual error variances of the observed or measured variables.
- calculate model fit – assess whether the model shows a good fit to the sample data

4.12.1. The Two Imperative Issues on SEM Analysis

With the power and extensiveness of SEMs come two practical impediments – model identification and model equivalence.

- **Model Identification** – The first problem is about whether the parameter estimates are identified for model identification. This is about getting a unique estimate for a parameter. A model is termed identified if all the model parameters are identified – i.e., if there is a unique value for every single free parameter from the observed data (Hox & Bechger, 1998). The identification problem relates to an attempt to determine whether there were adequate independent equations to account for the variables within the model (Khine et al., 2013). If none of the instruments are identified, then it becomes impossible to get an output from a SEM analysis. This subject will be explained further on model identification under SEM assumptions below.
- **Model Equivalence** – The next issue is that of *model equivalence*. This problem is further aggravated by the fact that often the data does not evidently highlight this problem, but this should be detected as a result of prior experience. Therefore, it is difficult for a first time researcher to note this problem (Bollen & Long, 1993). Any two SEMs are regarded as equivalent if they estimate similar values from a similar set of data (Khine et al., 2013). When fitting SEMs, the investigator should consider either the covariance matrix or the correlation matrix. However, at occasional times, observed means can be utilised to fit SEMs, particularly when approximating factor

intercepts or means. As a result, any two SEMs that estimates related moments (i.e., means, covariances, correlations, etc.), are regarded as equivalent.

4.12.2. Why SEM? – A Justification

In order to fully answer this question, a table was created, displaying several SEM's attractive features. Table 4.8 below demonstrates some of these features.

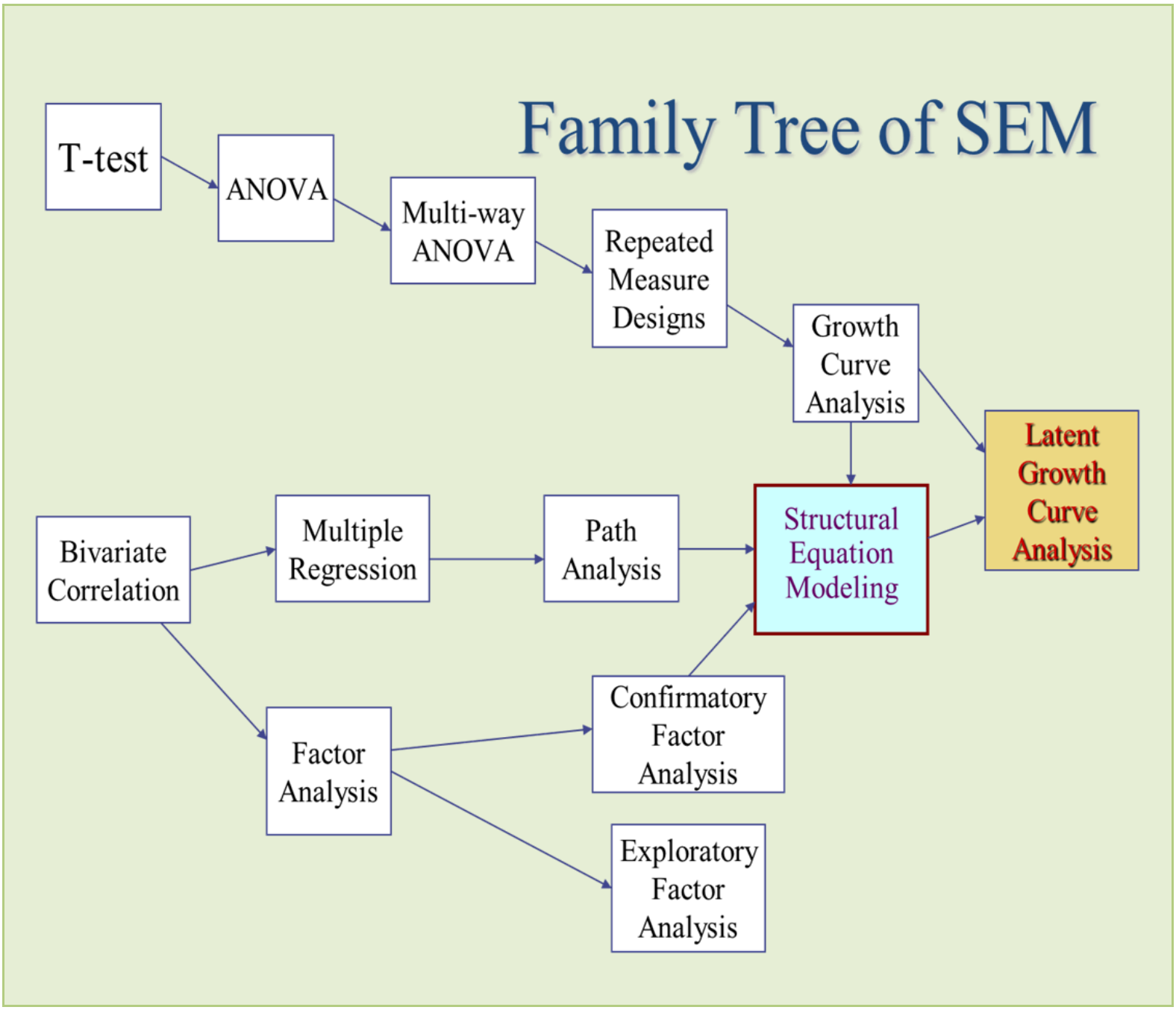
Table 4.6: A Justification of Why SEM Was Selected for this Study

SEM's Attractive Features
• While other multivariate methods are based only on observed measurements, SEM procedures integrate both manifest and latent variables • Graphical User Interface software increases creativity and enables quick model debugging – a feature found *only* in selected SEM software packages • SEM programs simultaneously delivers single and explicit parameter estimate tests (i.e. estimates of error variance parameters) and complete tests of model fit. • Regression coefficients, variances, and means can be compared instantaneously, even across multiple between-subjects groups. • SEM takes a confirmatory methodology to data analysis by stating the associations amongst *a priori* of variables. • SEM can model multivariate relations, and estimate both direct and indirect effects of constructs under study • Measurement and CFA models can be used to remove errors, making projected relationships amongst unobserved variables less contaminated by measurement error. • SEM offers a unifying framework under which many linear models can be fit using a powerful and yet flexible data analytic approach

Source: Statistical Support, (2001)

The following figure shows some of the important aspects linked to or contained in SEM.

Figure 4.16: The Family Tree of SEM



Source: Zimmerman & Dekhtyar (undated PPT)

The above figure shows that SEM is a combination of many traditional statistical analysis methods like the t-test, analysis of variance (ANOVA), growth curve analysis, multiple regression, factor analysis, path analysis, exploratory factor analysis, CFA, and more recently – latent growth analysis. The integration of all these analysis techniques demonstrates that SEM is indeed a powerful data analytic technique.

4.12.3. Assumptions of SEM

Just like any statistical technique, SEM also has a number of assumptions that should be approximated, if not met, to safeguard the reliability of the research findings. In general, the presupposition is that the gathered data should follow a multivariate normal distribution, in order for the means and the covariance matrix to cover all the relevant information (Khine et al., 2013). In line with the proposal by Statistical Support (2001), SEM assumptions are:

(i) A Theoretical Foundation for Model Specification and Causality – Model specification is essentially about model building and this is based on previous studies or theory. Consistent with Hox and Bechger (1998)'s observation, SEM requires that a researcher should specify the model prior to the analysis process. Therefore, the researcher for the current study clearly specified the anticipated linkages between the manifest and latent variables – i.e., the researcher explicitly distinguished the independent from the dependent variables. This was the process where the investigator stated which relationships were null, constant, as well as those that were expected to vary. The correlations between variables were conceptualised and represented in path diagrams or parameters – to distinguish between those that were fixed or constrained and free. The selection of which parameters were to remain free, fixed or constrained was guided by previous literature. Stating the relationships between constructs is important as Khine et al. (2013) opined that the relationships between variables that remain unspecified are assumed to be zero. After the analysis process was over and all computations were done, the researcher checked if the anticipated relationships were unsupported, and if that was the case, then misspecification may have occurred in the beginning.

- *Model Misspecification* – This refers to the degree to which the hypothesised model may be prone to specification error, for instance, an exclusion of relevant constructs in the model (Khine et al., 2013). If SEM is used for analysis, investigators are left to *provisionally* accept a given model that has a good fit with the data (Khine et al., 2013). This is due to the fact that SEM models can *never* be accepted, but a researcher can only fail to reject them. However, models with a *bad* fit – those that do not fit the data well can be wholly rejected. Conceivably, if an investigator fits one factor in CFA model to other measurement items, and the model is constantly rejected, then the researcher may be self-assured that the factor that is being fitted does not sufficiently explain the items' shared variance

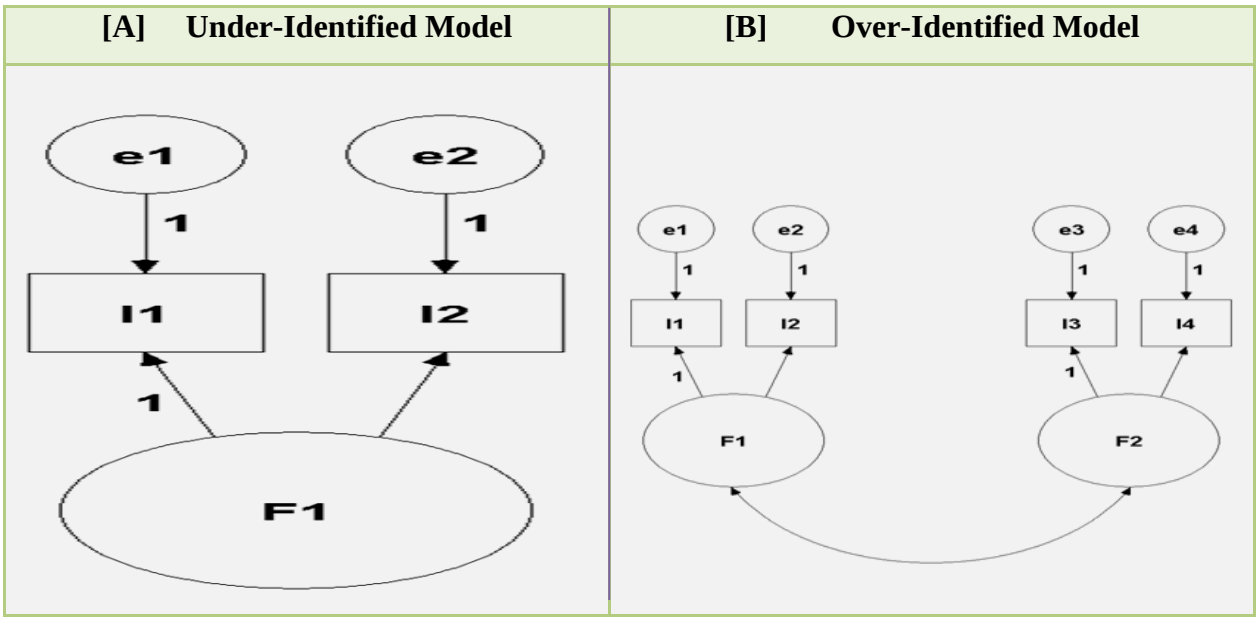
(Hoyle, 1995). Additionally, Byrne (2012a) opined that using SEM software programs involve some ambiguities, particularly with cross-sectional data collected under controlled conditions. Although this study did not use cross-sectional data, it became important to note that when using SEM, the researcher ought to be very clear when specifying models as suggested by Hox and Bechger (1998), Hoyle (1995) as well as Khine et al. (2013).

(ii) Model Identification – SEM statistical packages require an adequate number of known correlations and covariances as inputs so as to yield a practical set of results. This also implies that every single equation should be properly identified. As a result, identification has been regarded as a structural pre-requisite in order for the SEM analysis to be effective. As part of testing the model fit to the data, an appropriate statistical software was also necessary to carry out identification checks (Khine et al., 2013). AMOS statistical software was chosen because it often provides sound cautions about under-identification situations and can also offer recommended remedies (Arbuckle, 1997; Kline, 2011). Using a number of constraints every now and then can provide remedies for identification problems. Identification implies that there should be no less than one unique result for every parameter estimate in a SEM model. When models have at least one parameter estimate, they are thought to be *just-identified* (Khine et al., 2013). However, models that have over and above one likely solution for each parameter estimate are regarded as *over-identified*. Over-identification happens when there are fewer unknowns than the data available to estimate them. Those with an unlimited number of possible parameter estimate values are considered to be *under-identified* (Khine et al., 2013; Shipley, 2002). Essentially, there are two types of under-identification:

- *Empirical Under-Identification* – This happens when a parameter estimate that initiates model identification has a very small estimate (Shipley, 2002).
- *Structural Under-Identification* – Occurs when the model is under-identified for any combination of parameter estimates as a result of poor model construction (Shipley, 2002).

Virtually, all excellently fitted models are just- or over-identified. The solution for under-identification can be through model re-specification or further data collection. Generally, investigators use over-identified models owing to the fact that such models make it possible for them to compute model fit and test statistical hypotheses (Loehlin, 1992).

Figure 4.17: An Example of an Under-identified and Over-Identified Model



Source: Rigdon (1997)

Figure 4.18 above evidently shows two models – Model A (under-identified model) and Model B (over identified model). Model A is under-identified because additional constraints are required for it have a satisfactory level of identification. On the other hand, Model B is regarded as *structurally identified*, but explicitly, it is over-identified due to the fact that only one degree of freedom in the model is positive.

(iii)Normally Distributed Exogenous Variables – SEM packages assume that dependent (downstream or exogenous) variables are normally distributed, with normally distributed residuals (Kline, 2005). Furthermore, the assumption is that all the univariate distributions are normally distributed and the joint distribution of any pair of the variables is bivariate normal (Kline, 2005). Essentially, this denotes that residuals are likely to be univariate normally distributed and their collective distribution can be projected to be joint multivariate normal (Khine et al, 2013). A violation of these assumptions can significantly have an effect on the precision of statistical tests in SEM (Kline, 2005). However, it is worth noting that in practice, this assumption is by no means fully met. This is because there is frequently some non-normally distributed variables (Stevens, 1996), in case of multivariate normality.

(iv) Complete Data or Proper Treatment of Incomplete Data – Complete data does not create any problems, however a problem occurs when the necessary data is lacking. Missing data commonly occurs due to issues beyond the control of the researcher.

Kline (2005) described two types of missing data:

- Missing at Random (MAR) and
- Missing Completely at Random (MCAR)

A problematic type of missing data is called Not Missing at Random (NMAR) (Kline, 2005). This kind of missing data is about methodical loss of data, for example, a systematic data loss where participants avoid some items measuring the construct. The most appropriate method is determined through assessing the extent of its missing and through an assessment of the randomness of missing data (Khine et al., 2013). Missing data experts, for example, Little & Rubin, 1987, recommended the use of the Maximum Likelihood Estimation (MLE) method for SEM analysis. This technique makes use of all presented data points. The chosen statistical software for the current study – AMOS statistical software, has the MLE feature that was used to detect the existence of missing data. In addition, Khine et al. (2013) posited that users of SEM must employ methods like multiple imputations, listwise deletion and pairwise deletion in order to deal with MAR and MCAR.

4.12.4. Model Estimation

As soon as the model is specified, the next task of a researcher is to estimate correlation coefficients and covariances (Khine et al., 2013). As stated by Hox, & Bechger, (1998), the most basic model in statistical modeling is:

Equation 1: $DATA = MODEL + ERROR$

Model estimation involves describing the error-value associated with the projected value as well as the value of unidentified parameters (Khine et al., 2013). Moreover, model estimation can estimate standardized parameter coefficients (which are parallel to β under regression) and non-standardized parameter coefficients (which are equivalent to *t* value linked with each β weight in regression) along with parameter values (Hox, & Bechger, 1998). A researcher must check whether the data is normally distributed prior to choosing the estimation method to use (Khine et al., 2013; Marsh et al., 2012). As aforementioned, the current study used the MLE, which is embedded within AMOS software.

4.12.5. Parameter Estimation

The estimated parameters must be significant enough to render the model desirable (Khine et al., 2013). Kline (2005) also supported this idea and posited that it is undesirable to have a

model that properly fits the data but it can still have a small number of significant parameters. If the model suffers from a small number of significant parameters but properly fits the data, the remedy can be what is termed *model modification* and this will be discussed later.

4.12.6. CFA or Measurement Model: Inferential Tests through MLE

As part of SEM, CFA was used to objectively evaluate and develop estimable variables that specified a series of associations, suggesting how 'measured variables' epitomized the latent construct. CFA is a measurement model used for assessing the relationships between a set of manifest and latent variables (Teo & Khine, 2009). Measurement model is viewed as a sub-model in SEM that: (i) states the indicators for every single variable, and (ii) determines the reliability of each variable for approximating the causal relationships. This analysis tries to specify as to which variables load onto which factors (Marsh et al., 2012). CFA computes correlation coefficients or estimates and reports them as standardized regression weights. With regard to correlation coefficients, standardised regression weights acquired through AMOS software must be 0.5 or higher, ideally 0.7 (Hair et al., 2006). Additionally, it is vital for an individual to also check the significance of these item loadings, covariances and error variances as well as the Global Model Fit Test and other model fit indices (Khine et al., 2013).

The output from CFA comes about after an individual would have specified these factors and their corresponding inter-correlations (Prudon, 2013). These correlation coefficients are used to calculate reliability (i.e. composite reliability) and validity (i.e. average variance extracted). In essence, CFA is about checking the reliability and validity of measurement instruments in addition to examining whether the conceptual model fits the gathered data. Once these three are checked, and the minimum requirements are met or provisionally met, then the next phase will be path modeling. Appendix III shows an illustration of a CFA model.

4.12.7. Types of Models in SEM

In line with Raykov and Marcoulides (2006), there are basically four kinds of SEM models that are found in the literature. These models include:

- CFA models
- Structural Regression (SR) models
- Latent Change (LC) models

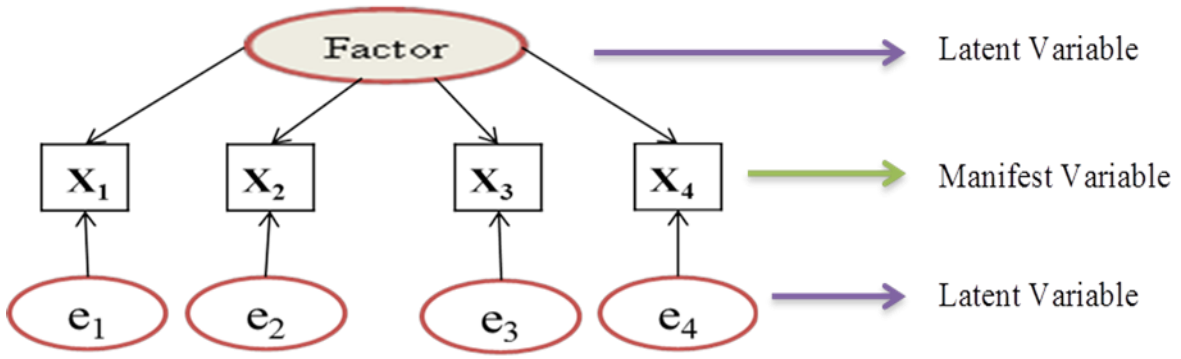
- Path Analytic (PA) models

The following section provides a brief explanation and example of the above models.

4.12.7.1. CFA Model

This model is frequently used to test patterns of interrelationships amongst numerous variables (Prudon, 2013). Every single variable in the model is assessed through the use of a set of manifest variables. The major feature of CFA models is that no precise directional associations are assumed between the premeditated constructs. Instead, variables are *just linked* with each other; for example, with double headed arrows that shows no direction of causality (Marsh et al., 2004; Goffin, 2007; Prudon, 2013). The figure below shows an illustration of a CFA model, showing both manifest and latent variables.

Figure 4.18: An Illustration of the CFA Model



Source: Kline (2005); Khine et al., 2013

4.12.7.1.1. Assumptions of CFA Model

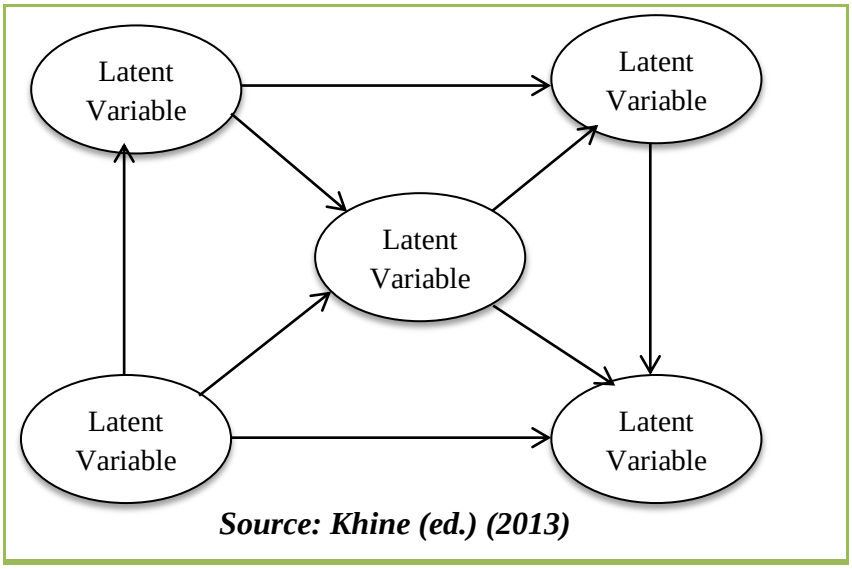
In line with Goffin (2007) and West, Taylor and Wu, (2012), the following points detail the assumptions of CFA models:

- Dimensionality is presumed to be known, i.e. from latent characters
- Linear model – This means that change in the latent trait by one unit (X) has a similar growth in estimated item response (Y) at all points of factor (Z)
- The objective is to estimate covariance between items on the basis of model fit
- Models can be presented without μ_i (the item intercepts) as this does not contribute to the covariance.

4.12.7.2. SR Model

These models are derived from CFA models through a proposition of the precise explanatory associations (i.e. the latent regressions) between variables (Khine et al., 2013). SR models are frequently used to test and validate or invalidate recommended theories that involve explanatory links amongst a diverse number of latent variables.

Figure 4.19: An Illustration of the SR Model

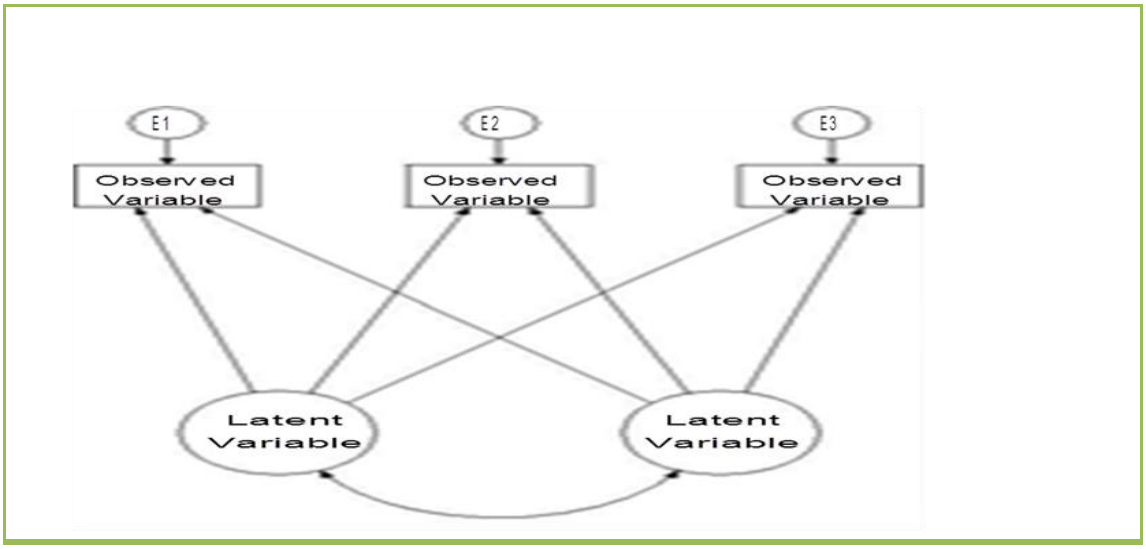


Source: Khine (ed.) (2013)

4.12.7.3. LC Model

The figure below is a representation of a latent change model.

Figure 4.20: An Illustration of an LC Model



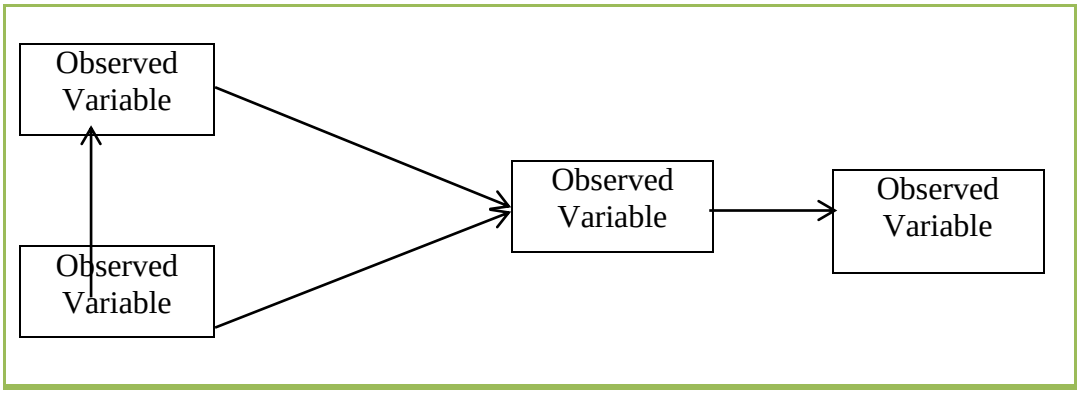
Source: Khine et al. (2013)

LC models are mainly used to study fluctuations over time, for instance, such models can be used for longitudinal studies (i.e., studies done over a long period of time, for example 5 years), patterns of decline or growth (or both). These models make it possible for investigators to study both inter- and intra-individual alterations in change patterns. Figure 4.21 above depicts how a typical LC model looks like.

4.12.7.4.. PA Model

Path analytic models are thought of in terms of manifest variables (Khine et al., 2013). Even though such models center only on manifest variables, they form a significant share of the ancient SEM's advancements. They also use a similar basic process of model fitting and testing just like other SEM models (Kline, 2005). The figure below displays such models.

Figure 4.21: An Illustration of A PA Model



Source: Khine (ed.) (2013)

In line with the objectives of the current study, only CFA and PA models were applicable and will be further examined later in this research investigation.

4.12.8. CFA: Checking Reliability, Validity and Model Fit of Measurement Items

Under CFA, reliability and validity of instruments is checked as well as model fit. This section will briefly discuss reliability and validity, as they were discussed in sections above.

(i) Reliability of Measurement Instruments – Reliability is about the quality of a measurement technique that provides consistency or repeatability and accuracy (Chinomona, 2014). Reliability coefficients range between 0 and 1, with higher values indicating higher reliability levels. When an item or entity produces stable scores, then such an item is deemed to be a good measure.

(ii) Validity of Measurement Instruments – As stated by Khine et al. (2013), validity means that proper ways have been used to find answers to a question. Therefore, a meaningful or valid measurement procedure is effective when it measures the concept that it intends to measure.

(iii)Checking the Model Fit under CFA – Model fitting entails determining how well the data fits the model (Khine et al., 2013). In essence, fitting a model to data involves solving a set of equations (Hox, & Bechger, 1998). Moreover, it also entails making a contrast between the postulated covariance model (i.e., from the specified model) with the sample covariance matrix (i.e., from the obtained data) (Khine et al., 2013; Kline, 1998). A researcher may calculate the statistical significance of every single parameter estimate for the structural paths in the model in order to determine the statistical effect of a theoretical model (Khine et al., 2013). On the other hand, researchers may consider the impact and the level of the parameter estimates to confirm that they are in line with the main theory and discard any illogical parameters (Schumacker & Lomax, 2004). Global fit indices can be used to determine model fit and fit indices fall into three broad categories: absolute fit (or model fit), model comparison (or comparative fit), and parsimonious fit (Mueller & Hancock, 2008, 2010; Schumacker & Lomax, 2004; Khine et al., 2013).

- *Absolute Fit Indices* – These indices measure how well the specified model resembles the data (Khine et al., 2013). There are many absolute fit indices, but the $\chi 2$ (chi-square) is the key absolute fit index that checks the degree of model mis-specification. This is why researchers always wish for an insignificant $\chi 2$ value as this indicates that the model properly fits the sample data (Kline, 1998; Rigdon, 1998; Schumacker & Lomax, 2004). On the contrary, a significant $\chi 2$ value demonstrates that there is model misfit – i.e., a lack of fit between the data and the model. This point towards the fact that the *p-value* associated with the $\chi 2$ must be insignificant in order to fail to reject the null hypothesis that there is no significant difference between the *implied* model and observed variances as well as the covariances (Khine et al., 2013). Nevertheless, previous studies suggested that the $\chi 2$ is *too sensitive* to increases in the sample size to the point that the level of probability (i.e., *p-value*) is more likely to be significant fit (Mueller & Hancock, 2008, 2010). In addition, the $\chi 2$ value is expected to rise together with the number of observed variables (Khine et al., 2013). Consequently, an

insignificant *p*-level is uncommon, despite the fact the model may as well be a close fit to the observed data. It is for this reason that SEM (as a powerful statistical package) does not use the $\chi 2$ as the *only* pointer of model fit. Other model fit indices are also used in SEM and they will be explained further in the ensuing section.

a) *Goodness-of-Fit Index (GFI)* – As stated by Khine et al. (2013), GFI measures the comparative amount of the observed covariances and variances. This is explained by the model and corresponds to the coefficient of determination (i.e., r^2) in regression analysis. The suggested value for a good fit is GFI > 0.95 (Hu & Bentler, 1999), with 1 demonstrating a perfect fit. However, in line with Hoyle (1995) and Chinomona (2014), the recommended threshold for GFI must be at or above 0.90. Moreover, GFI can be modified to offer an Adjusted Goodness-of-Fit Index (AGFI). This adjusted GFI allows for the degree of deviation from the model and in turn, it modifies the GFI (Kline, 2005; Schumacker, & Lomax, 2010).

b) *Standardized Root Mean Square Residual (SRMR)* – This index indicates the amount of error that comes from the estimation of the hypothesised model (Hu & Bentler, 1999). On the other hand, the error level or amount of residuals displays how true the model is. Consequently, a lower SRMR value – i.e., <0.05 characterises a good model fit while values <0.08 indicate a reasonable model fit ((Hu & Bentler, 1999; Khine et al., 2013).

c) *The Root Mean Square Error of Approximation (RMSEA)* – The RMSEA fixes the prospect of the $\chi 2$ rejecting models with a huge sample size or a large number of variables (Rigdon, 1998). Most of the times, the RMSEA is reported at 95% confidence level in order to redress any sampling errors associated with a lower RMSEA value and the projected RMSEA. This is the same as the SRMR value, which indicates a good fit for low values (Khine et al., 2013; Schumacker, & Lomax, 2010).

d) *Comparative Fitting Index (CFI)* – This index evaluates whether the hypothesised model is better than the baseline or competing model

(Rigdon, 1998). The CFI is one of the extensively used indices and it demonstrates the comparative lack of fit of the postulated model versus the baseline model. Some of the strong points of CFI include its relative insensitivity to the complexity of the model. It ranges between 0 and 1, with higher values of <0.95 (Hu & Bentler, 1999) indicating a good fit.

e) *The Tucker-Lewis Index (TLI)* – Just like CFI, the TLI may as well be used to measure comparative fitting, with values close to 1 signifying a good fit (Hu & Bentler, 1999; Khine et al., 2013).

f) *Parsimonious Indices* – Frequently, a parsimony fit model is simple – with less parameters that reduce the complexity of the model. Moreover, parsimonious indices are computed through the use of a parsimony ratio (Khine et al., 2013). This index or ratio determines the variation between the observed and inferred covariance matrix, while at the same it accounts for the complexity of the model (Kline, 1998).

The current study used the following thresholds to check whether the model fits the data:

- Chi-square value (<3)
- Comparative Fit Index (CFI): (> 0.900)
- Goodness of Fit Index (GFI): (> 0.900)
- Incremental Fit Index (IFI): (> 0.900)
- Normed Fit Index (NFI): (> 0.900)
- Tucker Lewis Index (TLI): (> 0.900)
- Random Measure of Standard Error Approximation (RMSEA): (< 0.08)

4.12.9. Shortcomings of the CFA Model and GOF Indices

As the current used the CFA model to check the reliability and validity of the measurement items as well as model fit, it became necessary to highlight some notable shortcomings of this method. According to Prudon (2013), one of the noteworthy drawbacks of CFA is that secondary estimates or correlation coefficients are excluded from the final output. Consequently, it often becomes hard, if not impossible for researchers to assess whether a specific item may perhaps have been enriched when apportioned to a different group, particularly when the initial factor loading or estimate is low (Khine et al., 2013). This results in poor detection of the deviation from the estimate (Prudon, 2013). As an outsider, it also

remains vague as to why no secondary correlation coefficients are provided on the CFA output. Such exclusion may create complications, particularly throughout the construct validation process. On the other hand, the aim of the current study was not to critique or question any established indices used in SEM, but to adopt them as they are because the exclusion of secondary estimates was deemed necessary by earlier researchers. Noteworthy, this omission has been supported by a number of academics, for example, Goffin (2007), Markland, (2007) and Mulaik (2007) among others.

Instead of having secondary correlation coefficients in the final output, the so-called *modification indices* for all items are included in the final output (Barrett, 2007). Modification indices show how GOF indices can be enriched when an item is eliminated from its projected group (Khine et al., 2013). In consequence, it is expected that many scholars, for example, Barrett (2007) and West et al. (2012) would criticise the reliability of GOF indices. In their critique, they asked a relevant and yet controversial question:

How reliable are these so-called goodness of fit indices?

Besides the criticisms on the reliability of the GOF indices, another debate erupted due to the confusion regarding the cut-off values that must be assigned to these indices so as to determine a satisfactory level of acceptance or rejection of a model (Barrett, 2007; West et al., 2012). However, as aforementioned, the current study did not intend to question anything, but only used the recommended thresholds by previous scholars to justify the fit of the conceptual model to the data.

4.12.10. Model Modification

A bad model fit necessitates that the hypotheses must be altered either by adding or eliminating parameters in order to improve the fit (Khine et al., 2013). Thereafter, model re-specification happens – which is a step of re-testing the model (Schumacker & Lomax, 2004). In general, model modifications give rise to a better model fit (Martens, 2005). Nonetheless, such modifications can be the basis for lack of generalisability, particularly if small sample sizes are used. Another problem arises when these modifications are not theoretically justified (Green et al., 1998) as this may give rise to circumstances where the investigator severely mis-specifies the original model. Model modification also entails carefully altering the parameters and this adjustment must also be reinforced by theoretical evidence in order to lessen the probability of making Type I error (Martens, 2005). For example, parameters can

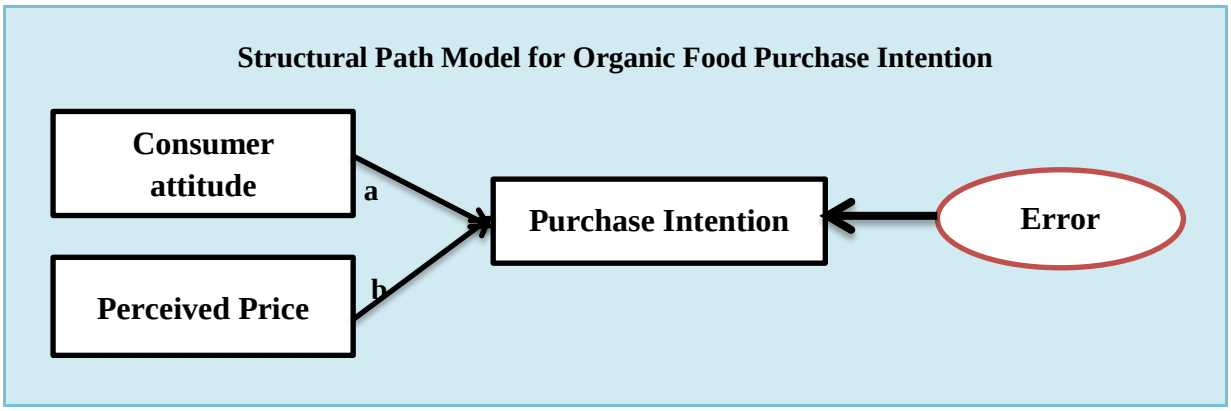
be altered from being free into fixed or from being fixed to free. At this model-modification stage, AMOS statistical software can assist researchers in modifying the model through working out the Lagrange Multiplier Indexes for each parameter or the so-called modification indices for each fixed parameter (Arbuckle, 1994; 2012).

4.12.11. Path Modeling

Once reliability and validity of measurement instruments, together with model fit under CFA is checked, and acceptable thresholds are met, the next step is path modeling. Path modeling as a SEM technique (or a sub-set of SEM) is defined by a measurement model linking the manifest variables to their latent variable (Khine et al., 2013). Moreover, it is also regarded as a structural model that links independent unobserved variables to other unobserved variables (Chatelin, Vinzi & Tenenhaus, 2002). Typically, SEMs are visualised through a graphical path diagram as depicted in Figure 4.23 below.

A path diagram consists of boxes that represent manifest or measured variables and circles that represent latent or unmeasured variables. Both measured and unmeasured variables are linked by arrows (Khine et al., 2013). 'Paths' or single-headed arrows refer to causal relationships as per the model while double-headed arrows show covariances or correlations that have no causal interpretation (Hox & Bechger, 1998). However, the figure below only depicts causal relationships as only single headed arrows are used.

Figure 4.22: A Depiction of Path Diagrams



Source: This Study

From Figure 4.23 above, the circle represent latent variables while boxes characterize manifest variables. Noteworthy, the error term is presented as a latent variable.

Illustration 1 – Given the above diagram, the relationships can be represented in a simple linear equation as follows:

Equation 2: purchase intention$_i$ = a *consumer attitude$_i$ + b *perceived price$_i$ + error$_i$

The above equation shows that the researcher attempts to select estimates for coefficients *a* and *b*. These coefficients moderate some errors across observations, given the assumptions about these errors. An individual can also use path diagrams to describe the model described in Equation 2 (and as seen in Figure 4.23 above) and they are a clearer way of summarising SEMs. Path diagrams can be drawn in a fairly simple way and the graphic tools embedded in the statistical software can be used to draw them – i.e., SEM is a GUI. On the other hand, an individual can use AMOS to generate the required equation statements in a bid to fit the models drawn (Arbuckle, 1997).

Besides the simple linear equation above, SEMs can also comprise one or more linear regression equations, and this further evinces the relationship between constructs. In SEM, these linear regression equations are termed structural equations or structural equation models or simply the structural model. Coefficients that indicate how exogenous variables depend on endogenous variables are rarely called path coefficients (Khine et al., 2013). The next section presents a simple regression equation, which shows the basic link between the dependent and independent variables.

4.12.12. SEM-Multiple Regression Link

SEMs involve a sequence of multiple regression equations which are all simultaneously fitted. As a multivariate addition of the multiple linear regression models, SEM has many independent (exogenous) (X) variables but has one dependent (or endogenous) (Y) variable.

Equation 3: $y = i + Xb + e$

where:

y = a vector containing observed scores on the dependent variable

i = a vector 1's representing the y-intercept

X = a matrix of continuously distributed or categorical (dummy coded) independent variables

B = the vector of regression weights

e = represents the vector of residual or error or leftover scoring unexplained by the model

The following section highlights the significance of SEM to this study as well as some advantages and disadvantages of SEM in advance of providing a short discussion on AMOS.

4.12.13. Importance of SEM with Regard to the Current Study

The extant literature indicates that a number of key marketing variables are unobserved (Bacon, 1997; Khine et al., 2013). Latent variables can be approximated with one observed variable, however, with an unknown reliability of such a measure. Arguably, if only a single predictor is unreliable, then its true regression coefficient may be miscalculated and the size in addition to the signs of coefficients may also be wrong (Hox & Bechger, 1998; Kline, 2011; Marsh et al., 2012; Wothke, 1996). This implies that an investigator may perhaps find that the predictor variables that are expected to be positively correlated with the outcome variable may end up having negative coefficients, or vice versa. Such an outcome may require that the investigators must re-regress the data (Wothke, 1996). However, if similar results are obtained – i.e. getting unreliable coefficients with startling signs, then the problem may be as a result of model mis-specification. This may be mitigated through the use of separate, bivariate regressions (Wothke, 1996). Providentially, the usage of SEMs with a number of indicator variables may assist market researchers in modeling the main latent variables while at the same time resolving the unreliability of indicators (Marsh et al., 2012). Therefore, the significance of SEM may be derived from its ability to model unreliability, and in so doing, it explicitly takes unreliability of indicators into account.

In addition, SEMs symbolize an overriding way for managing multicollinearity (i.e., two or more predictor variables being inter-dependent rather than being unique) in the set of exogenous variables (Wothke, 1996). Independent variables with a very strong inter-dependence – those that are *too highly* related or lack distinctiveness tend to create poor and biased or misleading results. As stated by Kline (2005), any pair of independent variables that correlate highly – have a correlation greater than or equal to 0.85 (i.e. $r \geq 0.85$) indicate potential problems of multicollinearity. When two or more predictor variables correlate highly with each other, the investigator should select one of the two variables and eliminate it from further investigation. Handling multicollinearity problems entails the following:

(i) ignoring multicollinearity;

(ii) removing multicollinearity through the use of data reduction techniques, for example, principal component analysis;

(iii) model multicollinearity – Modeling is a powerful characteristic of SEM and is the

best alternative, particularly in comparison with the first two multicollinearity reduction techniques. This is because the other two may in turn create serious problems (Wothke, 1996).

4.12.14. Strengths of SEM as a Data Analytic Approach

As a data-analytic framework, SEM has innumerable appealing features. Arguably, SEM is the most broadly valid statistical technique presently available and it has numerous flexible and unique capabilities. The most eminent feature of this **powerful** statistical tool is its ability to specify latent variable models (Tomarken & Waller, 2005). Such models provide separate estimates of associations between unobserved variables and their observed indicators (i.e., the measurement model) as well as the associations amongst research constructs (i.e., the structural model) (Kline, 1998). By these means, it is frequently claimed that investigators can evaluate the psychometric properties of procedures and are able to approximate relationships between variables that are adjusted for biases that relates construct-irrelevant variance and random error (Bollen, 1989). Nonetheless, these psychometric benefits of unobserved variables have been cautioned by Tomarken and Waller (2005) as they claim that these benefits can be exaggerated and depend mainly upon different methodological aspects that are operational in a specific study, e.g., in DeShon (1998) and Little et al. (1999).

Another frequently accepted strength of SEM is the perceived availability of measures of global fit (Kline, 1998). These measures may perhaps offer a summary evaluation of even multifaceted models that consists of many linear equations (Tomarken & Waller, 2005). When compared with other alternative techniques that can be used instead of SEM (for example, multiple regression analysis), models can be tested through the use of only separate 'mini-tests' of model components and these are done on an equation-by-equation basis (Kline, 1998; Tomarken & Waller, 2005). Additionally, by means of *nested* chi-square tests, researchers can comparatively assess the fit of other models that vary in complexity. Through this way, SEM facilitates model comparison approach to data analysis (as seen in Judd, McClelland & Culhane 1995).

SEM also makes it possible for scholars to directly test the relevant model instead of using other ineffective alternatives (MacCallum, Browne & Sugawara, 1996). When using SEM, the theoretical hypotheses are frequently connected with the null hypothesis, which in actual fact postulates that the model fits the data accurately or at least approximately. However,

other types of SEM analyses are exempt from this conclusion, for instance, between-group comparisons of factor means (Tomarken & Waller, 2005). As above mentioned, SEM is also a remarkably broad data-analytic approach that is linked with exceptional capabilities in relation to other statistical techniques which were traditionally used in data analysis (Khine et al., 2013). The following features show recent innovations or developments that have further enhanced the capabilities and scope of SEM:

(i) **Latent Growth Modeling (LGM)** – Recently, LGM related to SEM approaches (for example, in Duncan, Duncan, Strycker, Li & Alpert, 1999 and in Curran & Hussong, 2003) has become a viable alternative to the traditional and classic repeated measures of the ANOVA approach (Khine et al., 2013). When compared with ANOVA approaches, LGM provides a more flexible array of possible covariance structures that are used to model residuals and random effects (Rovine & Molenaar 1998) and has greater statistical power (Muth´en & Curran, 1997; Duncan et al., 1999; Fan, 2003).

(ii) **A Comprehensive Multi-Level Modeling Capability** – One of the most latest advances within the SEM domain is the tool's ability to model more broad nested data structures (Du Toit & Du Toit, 2004; Liang & Bentler, 2004). Multilevel SEM models are suitable for designs that involve a large number of clusters (for example, above 100), and the effects of these are considered to be random (Tomarken & Waller, 2005). However, SEM multilevel models are linked with a number of limitations; for example, model setup and analysis are more intricate than is normally the case with single-level SEM models (Hox & Maas, 2001; Tomarken & Waller, 2005).

(iii) **Modeling of Latent and Categorical Manifest Variables** – The improved facility for modeling latent and categorical manifest variables is another significant advancement attributable to the work of Muth´en and Muth´en (2004) together with Skrondal and Rabe-Hesketh (2004). This development has also added to the claim that SEM currently represents the most wide-ranging data-analytic framework (Khine et al., 2013; Tomarken & Waller, 2005).

(iv) **SEM's Impact on Non-Normal Variables** – Although raw data is often poorly typified by normal distribution (Curran, West & Finch, 1996), a number of SEM applications depend on the normal theory approaches, for example, the Generalised Least Squares (GLS) and the MLE. This dependence is particularly relevant when one is approximating model parameters and testing model GOF. These normal theories approaches used in SEM (i.e., GLS and MLE), are drawn from the supposition that

the data are multivariate normal (MVN). In principle, MVN in SEM is an adequate but not a required condition for getting the desired normal theory estimators (Bollen, 1989). Notably, the MVN assumption is largely more restraining than univariate normality. More importantly, in cases where the data is not MVN, the necessary properties of the normal theory estimators may not be achieved ultimately. Non-normal data may also contain additional undesirable effects. Bootstrapping methods (Efron, 1979) may perhaps represent a valuable alternative when covariance structures are fitted to non-normal data (Bollen & Stine, 1993; Yuan & Hayashi, 2003; Yung & Bentler, 1996). To highlight the strength of SEM, presently the bootstrap functionality is embedded in most of its packages.

(v) **An Assessment of Missing Data** – For the past decades, the main concentration of statistical research has been on the growth of superior methods that were directed at the treatment of missing data (for example, Dempster, Laird & Rubin, 1977; Finkbeiner 1979; Little & Rubin, 1987; Schafer, 1997). These methods have also been extrinsically linked to SEM, for example, the raw MLE or full-information maximum likelihood (FIML), multiple imputation (MI) and the expectation maximization (EM) algorithm among others. All things considered, Tomarken and Waller (2005) recommended the approaches of MI and FIML for the reason that they can be applied more flexibly in comparison to the multi-sample alternative. In general, MI and FIML tend to yield more correct estimates of standard errors than EM (Tomarken & Waller, 2005). Arguably, it is for the above factors that SEM has become the statistical framework that is most commonly used to establish and compare alternative methods to the handling of missing data. Fortunately, fairly current evidence shows that rescaled statistics (for example, Chou, Bentler & Pentz, 1998) and the bootstrapping procedures (for example, Bollen & Stine 1993) used for the analyses of non-normal data (as above-mentioned), can be usefully extended to handling issues relating to missing data (for example, Yuan & Bentler, 2000; Enders, 2002).

Briefly stated, it should be noted that SEM enables better modeling of measurement error in order to identify unbiased estimates of the connections between variables under study. For this reason, SEM makes it possible for researchers to get rid of the measurement error from the regression estimates. Also, SEM facilitates the modeling of complex multivariate relations or indirect effects that are not easily predictable (Khine et al., 2013). It is also

possible for SEM to model both manifest and latent variables (Chinomona, 2014). This is why SEM was chosen for the current study, as when contrasted with other data-analytic approaches, for example, factor analysis and regression analysis, which can only model unobserved variables, SEM emerges as a dominant technique. Therefore, the most important feature of SEM is that it accounts for measurement error in research variables and helps in modeling latent variables (Bollen, 1989; Khine et al., 2013; Farrell, 2009; Wothke, 1996). Notably, when measurement error is explained, then the correlations between variables, though not at all times, are more likely to increase in size. However, this increase does not result in multicollinearity as discriminant validity of constructs is maintained (Grewal, Cote & Baumgartner, 2004). Even though SEM is evidently acknowledged as a vital analytic tool in research, previous studies show that it is still not being utilised to its fullest potential (Guo, Seth, Kendrick, Zhou & Feng, 2008). Despite these attractive features or advantages of SEM as discussed above, this statistical package is not without any criticisms and these critiques will be briefly discussed below.

4.12.15. Critiques on SEM: Practical Limitations and Misconceptions

Although the current study underscored the notion that SEM is a broad data-analytic technique, this tool has been infrequently used in a number of significant analyses and design contexts. The most significant oversights are indicated below and these aspects also highlight the major limitations of the SEM approach when contrasted with alternative approaches.

- **Interaction and Additional Non-Linear Models** – Despite the fact that interactions constitute the most important category of hypotheses framed by investigators, a review of practical applications done by Tomarken and Waller (2005) points out that many researchers have hardly ever used SEM in order to test interaction of hypotheses. Theoretically, the favoured alternatives amongst many researchers tend to be techniques that allow for an obvious specification of interactions amongst continuously distributed unobserved constructs (Tomarken & Waller, 2005). Although several SEM techniques have been proposed for modeling interactions (e.g., by Jöreskog, 2000; Lee, Song & Poon, 2004), it is unfortunate that the specification and approximation of SEM models with unobserved variable interactions is linked with possible complexities. These problems have accounted for the reasons why many investigators have a tendency to avoid using SEM (Moosbrugger, Schermelleh-Engel & Klein, 1997, Schumaker & Marcoulides 1998).

- **The Underutilisation of SEM in Research Analyses** – A review by Tomarken and Waller (2005) suggested that SEM has only not been often used in research analysis contexts. Therefore, despite the available evidence of the SEM's strengths, it has been rarely used by researchers. The reason for the circumvention of this powerful tool may be due to the fact that it includes categorical variables that denote a group status, as these variables may increase the likelihood of violating the assumption of MVN. Another critical impediment to the utilisation of SEM may be the fact that researchers tend to be concerned that their sample sizes are insufficient for SEM, as it is grounded on the asymptotic theory (Khoo, 2001; Tomarken & Waller, 2005).

In addition to the above argument that SEM may perhaps not be optimally useful in certain data-analytic contexts, the current study presents more general misconceptions, constraints and/or critiques that relates to this statistical package. These critiques may eventually moderate the effect of overstating the strengths of SEM as well as the certainty attached to the conclusions generated through SEM analyses.

(i) Excluded Variables – Just like all the other statistical models, structural models are only just estimations of reality (Browne & Cudeck, 1993; MacCallum, 2003). The omission of variables under SEM present a deceptive picture of the causal structure and/or measurement resulting in inaccurate estimates of standard errors and biased parameter estimates (Mauro, 1990, Reichardt, 2002). Therefore, it is possible that a number of the specified and tested SEM models exclude key variables. To aggravate this problem, Tomarken and Waller (2005) further opined that the excluded constructs are seldom acknowledged by many researchers in the discussion of findings. The reason for this may be based on the assumption that if there is a good model fit, then the model must contain all the important constructs implicated in the posited structure (Tomarken & Waller, 2003). However, as stated by Reichardt (2002), a good fit does not guarantee the inclusion of all pertinent constructs in a model.

(ii) Problems with Tests of Parameters and that of Estimates – Researchers must be aware of the various issues regarding the estimation and testing of parameters. Given the fact that SEM models are approximations, it becomes pertinent to highlight the fact that the parameter estimates and the related standard errors produced by the evaluations are unbiased only when the assumption that the hypothesised model is true (Tomarken & Waller, 2003). Specification of errors can also magnify this

problem. Moreover, an omitted path from a specific unobserved variable to the other unobserved variable has a potential of biasing estimates of other measurement parameters. Another problem may be the fact that many researchers are unaware of the fact that the statistical theory underlying SEM relates to covariance, instead of correlations (Cudeck 1989). Standard errors of parameter estimates are generally incorrect if correlation matrices are evaluated as if they were covariance matrices**.**

(iii) Alternative Models May fit Well – It is possible that the alternative models may fit the data just as well or better (MacCallum & Austin, 2000; Tomarken & Waller, 2003; Waller & Meehl, 2002). Hence, researchers should not overemphasize the strength and certainty of the conclusions produced by a SEM analysis.

(iv)The Possibility of Inaccuracies of Rules of Thumb – In a number of statistical contexts, investigators make use of rules of thumb as guidelines to their decision making and to justify whatever decisions they make. In numerous cases, these rules of thumb are simply erroneous or oversimplified (MacCallum, Widaman, Zhang & Hong, 2001; Marsh et al. 2004). Some principles are not universally true, i.e., the rule of thumb can be mistaken and SEM is no exception. Arguably, model-fit assessment is the area that many researchers have most constantly used rules of thumb. For example, the values of incremental fit indices like the Comparative Fit Index (CFI) (Bentler 1990) and the Tucker-Lewis Index (TLI) (Tucker & Lewis 1973) must exceed 0.90 to indicate an acceptable fit. Many studies have unfortunately pointed out that these rules of thumb are frequently erroneous or too lenient and the cut-off criteria is largely dependent on the chosen methodology, sample size, the complexity of the model among other factors (Browne, MacCallum, Kim, Anderson & Glaser 2002; Hu & Bentler, 1999; Marsh et al., 2004). Due to the problems relating to these rules of thumb, it has been suggested that a 'healthy dose' of subjectivity can be worthwhile in determining whether a model is a good fit (Marsh et al., 2004).

(v) SEM Cannot Make Up For the Flaws in Design and Method – Although SEM is a sophisticated statistical procedure; it cannot be used to rescue an improperly designed study (Khine et al., 2013; Marsh et al., 2004). It is possible that an entirely correct theoretical model, with all the necessary constructs and paths can yield poor fit and produce highly biased estimates, as long as the study is improperly designed. Thus, it is vital to justify a specific rationale regarding the decisions on the method and design as well as the likely impact of the choices made on findings and deductions.

4.12.16. A Recapitulation on the Strengths, Misconceptions and Critiques on SEM

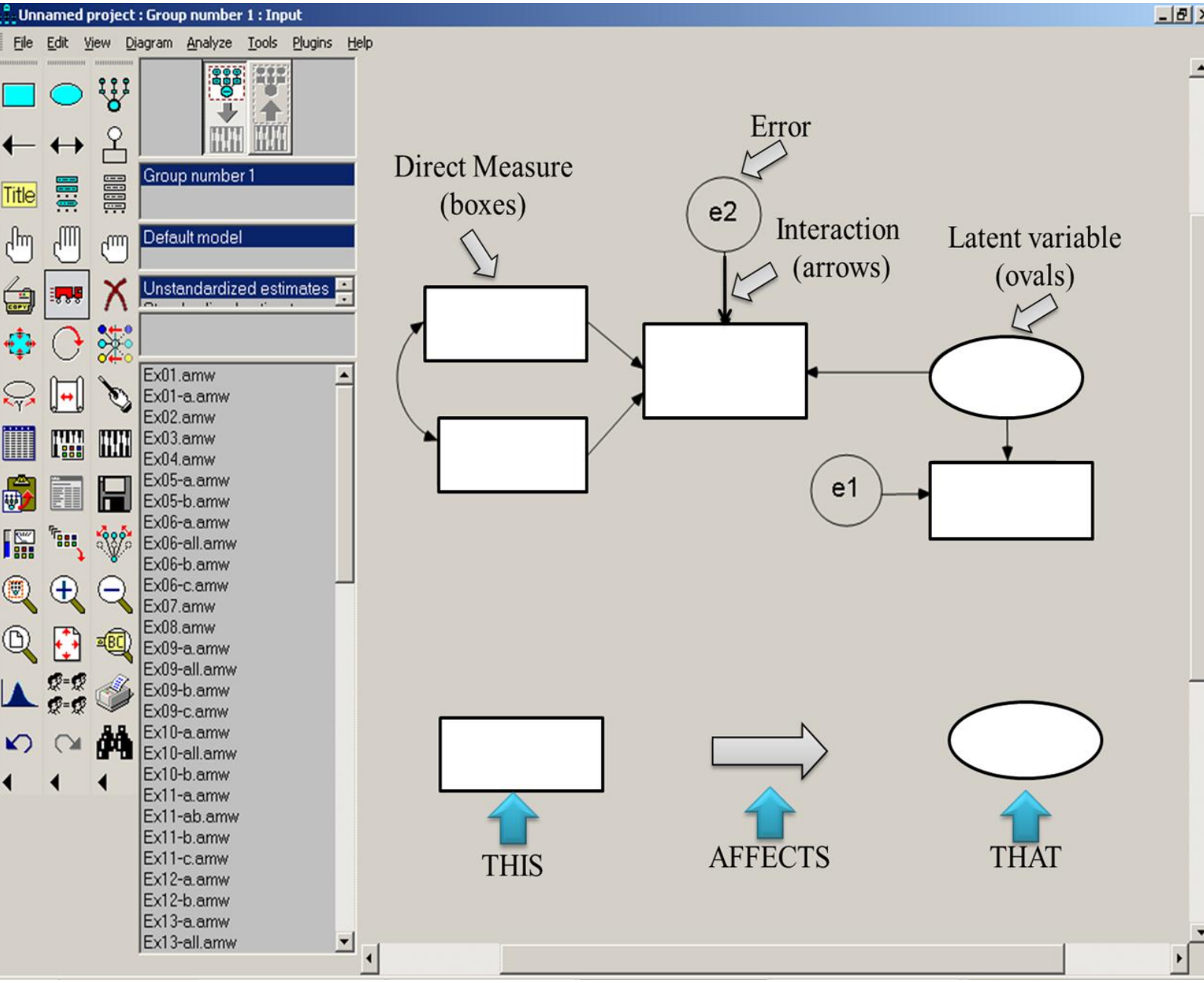
SEM is arguably the most broadly valid statistical technique in comparison with other analysis techniques and it has innumerable flexible and unique capabilities. However, SEM is not a statistical 'champion' that has no flaws (Khine et al., 2013). This is because it cannot be used to make up for a poorly designed study it cannot be used to demonstrate the accuracy of a model. Additionally, even a well-fitting SEM model can exclude paramount variables (Tomarken & Waller, 2005). Besides, other alternative methods may fit the data well or better than SEM models (Waller & Meehl, 2002). To add onto these problems, there are also some misconceptions and limitations that have been identified by previous methodologists and critics or statisticians (for example, Breckler, 1990, Judd et al., 1995; MacCallum et al., 1993; Tomarken & Waller, 2003; 2005) and these fallacies were highlighted above. As a result of the above reasons, SEM can be described as cutting-edge and/or powerful statistical procedure that is subjected to some ancient and yet familiar complications, misconceptions and critiques. The following section would briefly discuss the statistical software used for SEM analysis.

4.13. A Definition of AMOS

AMOS (Analysis of Moment Structures) is a statistical software that was mainly intended to perform covariance structure modeling, SEM and path analysis, in addition to Analysis of Variance (ANOVA), Analysis of Covariance (ANCOVA) and the more basic linear regression analyses (Arbuckle, 2012; Chinomona, 2014). AMOS extends the standard multivariate analysis methods, like correlation, factor analysis, regression, factor analysis, ANOVA and it is also an additional component for SPSS (http://www.utexas.edu /its/help/spss/526). AMOS statistical software has an in-built GUI that makes it possible for researchers to specify models by drawing them, making it easy-to-use program for visual SEM (Arbuckle, 2005). Therefore, AMOS incorporates an easy-to-use graphical interface that has a cutting-edge computing engine for SEM. Moreover, SEM also has a fitted bootstrapping routine and handles missing data in a very prominent way (Chinomona, 2014). This software is also compatible with other softwares, i.e., it is capable of reading data from different sources, for instance, SPSS and Microsoft Excel spread sheet (http://www.utexas.edu /its/help/spss/526) and thus makes it easy to import raw data. Moreover, AMOS makes it possible for individuals to specify, approximate, assess and present models that demonstrate the theorised associations between variables (Arbuckle, 2012; Arbuckle & Wothke, 1999).

Researchers can use AMOS graphics to model and analyse the inter-relationships between latent constructs in an effective, accurate and efficient manner. In AMOS, investigators can specify, approximate, evaluate, and draw models in an intuitive path diagram that reflects the theorised relationships between constructs (http://sps.utm.my/wp-content/uploads/2014/08/Part-1.pdf). Importantly, AMOS makes it possible for multiple equations of inter-relationships in a model to be computed instantaneously. The following figure shows the functions and/or icons that are available in AMOS software.

Figure 4.23: An Illustration of AMOS Statistical Software



Source: Arbuckle (2005)

The above figure is an illustration of the software that was used for inferential statistics. Boxes represent manifest variables, while circles are for latent variables. Next to them is the indicator icon. Path icons follow with an error icon next to them. The two icons next to title represent the variable list (both for the model and data set). The following are select icons (from select one, select all and deselect all). The next icon is a 'duplicate' icon, and the 'truck' or "vehicle" is used to move items while "X" is used for deleting unwanted icons or paths. The 'reshape', 'rotate' and 'reflect' icons follow further down. The 8th row from the top has icons that link an SPSS file, then the next one in the same row specifies the 'output' needed and the 'calculate' icon. The next row has the 'copy' icon as well as the 'view' icon – the one used to view the output. The other icons are used to save, magnify, zoom in, zoom out, undo, redo, search, and print and so forth.

4.13.1. Methods Featured by AMOS

AMOS provides the following techniques (among others) for approximating SEMs (Arbuckle, 2012):

- Unweighted Least Squares
- Generalized Least Squares
- Browne's asymptotically distribution-free criterion
- Scale-free least squares
- Bayesian Estimation

Table 4.7: The Benefits of AMOS – Justification of Why AMOS was Chosen

Advantages of Using AMOS Statistical Software
• Models can be built more accurately as compared with standard multivariate statistics techniques • It generates the necessary equation statements to fit the models a researcher draws • Users can quickly specify, view, and modify a model graphically through the usage of simple drawing tools • Amos makes it possible for users to assess a model's fit, make any modifications • It provides users with a choice of either the graphical user interface or non-graphical, programmatic interface • Affords users with Structural Equation Modelling – for easy use, comparison, confirmation and refinement of models • Amos has a user-friendly interface that yields high quality path diagrams • The Bayesian analysis that it provides can be used to improve estimates of model parameters • Allows users to either build attitudinal or behavioural models that show complex relationships • Provided several missing data imputation methods with the aim of creating different data sets

Source: Modified from Chinomona (2014); Arbuckle (2005)

It was on the basis of the above benefits that AMOS was preferred as the most appropriate statistical software to conduct SEM or to analyse the raw data. However, a few limitations were noted and they include the fact that AMOS graphics or diagrams appear complicated for someone who has no idea of how the software works. They seem impossible, unless one gets to master the software (Chinomona, 2014). It is only after one actually 'engages' with the software that its application becomes easy and exciting.

4.14. Chapter Summary

This chapter has provided a comprehensive account of the methodology for the current study. To this end, the features of research philosophies (explicating the research paradigm) and a general research methodology (divided into sample design, questionnaire design and data collection technique) were discussed. Emphasis was placed on the fact that the content, research questions and the preferences of the researcher should be assessed so as to describe the methodological requirements of a specific study. This helped in selecting the most conducive methodology for the current study. Another broad discussion of SEM was also provided alongside the preferred statistical software – i.e. AMOS. Prior to that, this study provided a brief discussion on the ethical implications of this study as well the software that was used for descriptive statistics – i.e., SPSS statistical software. The subsequent chapter endeavours to provide a thorough account of how the data was analysed – from data coding, to data importation to SPSS and AMOS (for CFA and Path Modeling) in addition to the presentation of the findings.

CHAPTER V

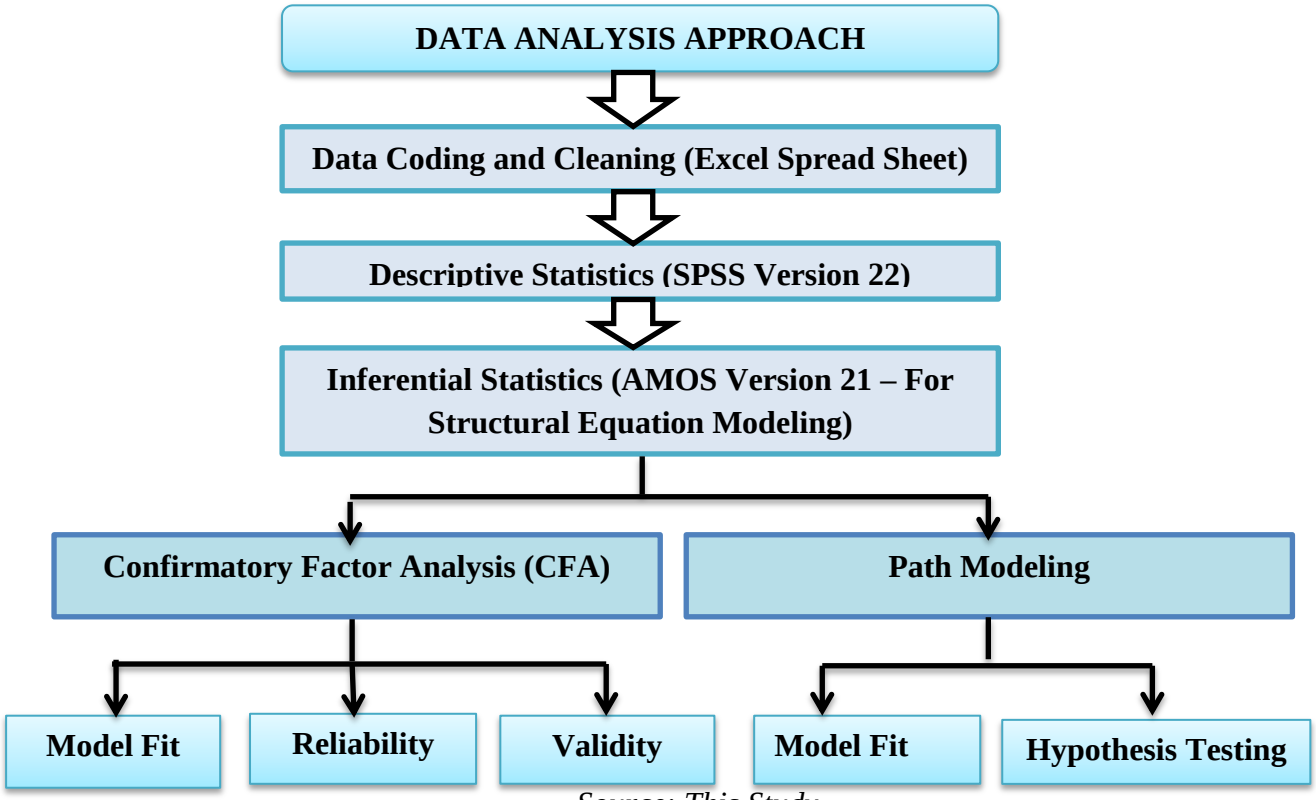
DATA ANALYSIS APPROACH

"Save the Planet...Buy Organic" — Nancy Philips

5.0. Introduction

Data analysis is a process of systematically applying statistical and/or logical techniques to describe, illustrate, condense, recap, and evaluate data (Jandagh & Matin, 2010:64). Moreover, data analysis is about the application of reasoning to understand and construe the collected data (Zikmund et al., 2010). Different analytic techniques "provide a way of drawing inductive inferences from the data and distinguishing the signal (the phenomenon of interest) from the noise (statistical fluctuations) present in the data" (Shamoo & Resnik, 2003). The current study used both descriptive and inferential statistics to analyse the coded data, through off-field analysis techniques. Descriptive statistics was presented through the use of tables (for means, standard deviation, percentages) and pie charts while inferential statistics was mainly presented in a tabular format. Descriptive statistics was relevant mainly for demographic data and general information while inferential statistics was utilised to make conclusions on the variables of this study. The focal point of this chapter was to, firstly, show how the collected data was coded and analysed and thereafter displayed the computed findings, from which, conclusions were drawn at a later stage. The subsequent figure graphically expounds the methodology that was used in analysing the collected data.

Figure 5.1: Data Analysis Procedure



Source: This Study

Figure 5.1 above illustrates that raw data was initially coded on an Excel spread sheet and then verified before being imported on either SPSS for initial analysis or AMOS for further analysis. Subsequently, raw data was imported from Excel into SPSS 22 statistical software for the calculation of descriptive statistics, reliability (Cronbach's alpha values) and correlation. To this end, SEM was used for inferential statistics and was provided by AMOS 21 statistical software. SEM is capable of verifying simultaneously the measurement and the structural models, i.e. examining both CFA (measurement) and path (structural) models in one model. In addition, as SEM is a covariance based approach – AMOS was favoured to the component based approaches (e.g., Smart PLS) owing to its precondition of accommodating a fairly large sample size, in excess of 250. Because of the fact that this study managed acquired 305 valid responses from respondents, AMOS 21 automatically became the most appropriate statistical software, as it befits this purpose. Furthermore, the attractiveness of this analytical software rests on the fact that it facilitates an effective computation of the overall fit of the conceptual model while instantaneously providing a valuation of the resulting path coefficients. CFA was performed first in order to validate the variables under study. This was done through the calculation of model fit, reliability and validity. Once the constructs were validated, path modeling was performed. Yet again, model fit was calculated and results were checked against those found under CFA. Thereafter, the researcher proceeded to test the hypothesised relationships between the constructs and the estimates. Ultimately, the inter-relationships between these variables were provided.

Prior to the actual analysis, a brief segment of data processing was outlined as detailed below.

5.1. Data Processing

As soon as data was collected, it was processed in line with the outline on the research plan in order to ensure that the analysed data was relevant for analysis

- **Data Editing** – This process was used to check (through a careful scrutiny of completed surveys) and alter data for legibility, consistency. It was also done in order to detect errors or omissions and correct them where possible (Khothari, 2004; Zikmund et al., 2010). This process made it possible for the collected and raw data to be ready for coding, transfer and storage as suggested by Swanson and Holton (2005). Subjectivity can wrongly influence the editing process and thus it can be regarded as a pitfall of the editing process. Item non-response became a practical problem for questions left unanswered or otherwise incompletely filled-out questionnaires. Faced

with an instance, the researcher edited all the survey inquiry forms for completeness. Imputing omitted data was also another problem and the researcher did it in a way that prevented any subjectivity in order to ensure data integrity.

- **Data Coding** – The researcher used codes function as a way of providing meaning to the senseless data through condensing huge volumes of data (Khothari, 2004). The researcher also ensured that these codes were mutually exclusive (one answer per cell) and exhaustive (a class for each data item) as suggested by Khothari (2004). Meaning was acquired through numerals that were fixed to raw data (Cooper & Schindler, 2005). In order to avoid re-capturing data from a similar questionnaire, the researcher ensured that all feedback forms were numbered from 1-357 prior to the commencement of the coding process. Nonetheless, not all the questionnaires were useful, as a number of them were discarded as a result of incompleteness among other reasons. As a result, the number was altered to a total figure of 305, and this was the figure used for further analysis.

Just like any step within the research process, data coding similarly has its specific segments that necessitate that the researcher should follow, and accordingly, this study followed these steps, from pre-coding to data cleansing.

Pre-coding → Data Entry → Error Checking / Data Cleansing

5.2. Data Coding and Cleansing

- *Pre-coding* – The researcher made use of pre-coding as it was known as to which answer orderings existed prior to data collection (Cooper & Schindler, 2005) due to the fact that a structured questionnaire was utilised for this study, with questions of a closed-form, pre-coding was possible, for instance, "Strongly Disagree" was pre-coded as 1 while "Strongly Agree" was pre-coded as 5. No responses were expected to come outside this pre-set scale and hence these codes were perceived as exhaustive – each item had its own class. Arguably, the responses of the study participants were fixed or pre-determined, making coding for this study to become pre-set.
- *Reverse-coded questions* – There were some questions that utilised this type of coding and they coded accordingly – i.e. where the study participants responded with "Strongly Disagree" the code became 5, "Disagree" was coded as 4, "Neutral" – No change, that is, 3, "Agree" was coded as 2 and "Strongly Agree" was coded as 1.

- *Dummy coding* – This type of coding was assumed when coding the construct "Gender", where female was coded as "0" while male as "1."
- *Data entry on Excel* – The collected data was coded or entered on an electronic data file – an Excel spread sheet, where the rows represented sampling units and the columns represented constructs.
- *Data cleansing* – This was the ultimate step of the coding procedure where the coded data was confirmed against the pre-set or set codes. Essentially, this was done to guarantee that all codes were genuine and that they conformed to the predetermined codes. The data file was thus checked for mistakes on values that fell beyond the range of potential values for the construct as suggested by Pallant (2010). A few abnormal values were noted and were thus corrected, as per the initial specification, for example "2" for Gender, when the specified codes were "0" and "1." Additional blunders included, for example, "44" instead of "4" and some columns were blank. A total of 4 rows had missing information. Missing data required the 'pulling out' of the relevant questionnaire, to cross-check and fix the inaccuracy. This was done effortlessly, as all survey forms were numbered.

(iii) **Classification –** The collected data was classified according to attributes – e.g. males and/or females were grouped together and analysed descriptively. Ordering according to class-intervals was done for data relating to, for example, income, age.

(i) **Tabulation –** This type of data arrangement was done to create a concise and coherent order – data was orderly arranged in rows and columns. Simple tabulation was therefore applied to the current study.

As per the discussion on coding above, the following tables show how the data was coded – from descriptive information (including demographic data) to research variables (which were used for inferential statistics).

Table 5.1: How Raw Data Was Coded Prior To Analysis

CODING FOR DEMOGRAPHIC DATA			
Item	**Codes**	**Item**	**Codes**
Gender • Female • Male	 0 1	**Home Language** • Afrikaans • English • Ndebele • Northern Sotho • Southern Sotho • Sotho (Lesotho) • Tsonga • Tswana • Venda • Xhosa • Zulu • Swazi • Other (Please Specify)	 1 2 3 4 5 6 7 8 9 10 11 12 13
Age • < 18 • 18-25 • 26-35 • 36-45 • 46-55 • 56-65 • ≥ 66	 0 1 2 3 4 5 6		
Educational Level • No Education • Primary • Apprenticeship • Secondary with Matric • FET College • University	 0 1 2 3 4 5	**Marital Status** • Other • Single/Divorced/Widowed • Cohabitation • Married	 1 2 3 4
Income Level • ≤ R10000 • R11000 – R20000 • R21000 – R30000 • R31000 – R40000 • R41000 – R50000 • More than R50000	 1 2 3 4 5 6	**Number of Children** • 0 • 1 • 2 or more	 0 1 2
		Employment Status • Unemployed • Part-time • Full-time • Retired	 0 1 2 3

CODING FOR OTHER DESCRIPTIVE STATISTICS			
Item	**Codes**	**Item**	**Codes**
Preferred Retail Outlet • Woolworths • Shoprite • Pick ‘n Pay • Spar • Other (Please Specify)	1 2 3 4 5	**How Do You Describe OF?** • Healthy [OFD1] • High Nutritional Value [OFD2] • Are in Harmony with Nature [OFD3] • Free from Chemicals [OFD4] • Environmentally friendly production techniques [OFD5] • Free from GMOs [OFD6] • All OF products are certified [OFD7]	All Codes Ranged between 1 and 5: 1 = Strongly Disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree
General Information • OFPI Frequency [GE1] • OFPI Consideration [GE2] • OFPI Percentage [GE3]	All Codes Ranged between 1 and 5 1 = Never 2 = Few Times 3 = Neutral 4 = More than a Few Times 5 = Always		

Note: OFPI = Organic Food Purchase Intention; OF = Organic Food

CODING FOR RESEARCH VARIABLES		
Variable	**Coding Style**	**Codes**
Endogenous Variable • Purchase Intention for OF	PI1 – PI8	All Codes Ranged between 1 and 5: Strongly Disagree = 1 Disagree = 2 Neutral = 3 Agree = 4 Strongly Agree = 5
Exogenous Variables • Consumer Attitude	CA1 – CA4	
• Health Consciousness	HC1 – HC5	
• Perceived Price	PR1 – PR5	
• Perceived Availability	AV1 – AV5	
• Labelling	LA1 – LA5	
• Knowledge Levels	KL1 – KL5	
• Subjective Norms	SN1 – SN5	
• Environmental Concerns	EC1 – EC5	

Note: OF = Organic Food

The above tables show how the *edited* was coded on an Excel Spreadsheet. As soon as this raw data was coded, it was kept as an electronic file, and was ready for analysis. Prior to the initial stage of data analysis, an effort was made by the researcher to fully grasp the statistical analysis technique (SEM) together with the chosen software (AMOS). However, the researcher was familiar with SPSS. A detailed discussion of SEM statistical package and AMOS software was provided in the preceding chapter. However, a brief description is outlined below and is an addition to the broad discussion in Chapter 4.

5.3. Statistical Tools Utilised for Analysis

The data collected from the survey was subjected to statistical 'treatment' and statistical tools, for instance, the mean, frequency, standard deviation and percentages, among others. These statistical tools will be discussed fully in the succeeding section. Prior to the selection of appropriate statistical tools, the statistical prerequisites of this study were considered. In so doing, the following question, as suggested by Hair et al. (2003), was answered:

- To what extent are accurate statistical projections and/or testing of hypothesised differences in the data structures required in any study?

Any research endeavour seeks to produce correct, reliable and valid findings in order to draw accurate conclusions and/or generalisations (Hair et al., 2003). In light of the current study, appropriate procedures were necessary to maintain and meet the specified statistical projections. Hence, this was to be accomplished through the use of relevant statistical tools.

5.4. Descriptive Analysis

The editing and coding stage was followed by the descriptive analysis which refers to "the elementary transformation of raw data in a way that describes the basic characteristics such as central tendency, distribution and variability" (Zikmund et al., 2010:486). Of the 600 consumers that were approached on the field, only 357 of them contributed to this study. This meant that the response rate was 59.5%. From the 357 questionnaires, 52 feedback forms were thrown away, mainly owing to incomplete responses. A total of 305 questionnaires were used for the final data analysis. As a result, this total yielded a response rate of 85.4%. The researcher recognised one of the main reasons for incomplete responses was the fact that some consumers found the questionnaire to be too long and may have lost interest in the middle of filling out their responses. Just around midday, some consumers, especially women, were rushing to fetch their children from school and hence could not spare 10-15 minutes of their time. The other reason was that during lunch breaks, many consumers were

rushing to get something to eat and get back to work quickly. Hence, if they felt that they were late, they handed in the questionnaire, even without answering all the questions. However, the consumers approached in the morning and just after lunch and those that emailed their responses, managed to complete all the survey questions.

5.4.1. Evaluating the Mean Values of Variable Index

Every single construct contained within the survey questionnaire was examined through a number of statements or items. The items investigating the same construct were converted into a variable index by calculating mean values of the responses. The mean is "the average of the numbers: a calculated "central" value of a set of numbers" (http://www.maths isfun.com/definitions/mean.html). Table 5.2 below presents the mean values plus the standard deviation of values for each construct. The standard deviation refers to "the spread or variability of the sample distribution values from the mean" (Hair et al., 2007:320). A large estimated standard deviation implies that the responses are varying, making the response distribution values to fall far away from the mean of the distribution. Alternatively, a small estimated standard deviation suggests that the responses are consistent and that the response distributions lie close to the mean (Hair et al., 2007; Sclove, 2001). The boundary of the level of standard deviation should differ consistent with the applied range of scale. The employed limit for the current research, as defined by Sclove (2001), was the 5-point Likert scale. As a result, response distributions with sigma below 1 were deemed consistent; whereas those with sigma in excess of 1 were considered to be inconsistent. The mean and standard deviation values of variables of the current study are as follows in Table 5.2 below:

Table 5.2: Mean and Standard Deviation Values of the Study Variables

Study Variable	Mean	Standard Deviation
Consumer Attitude	3.8451	0.78140
Health Consciousness	4.1082	0.71094
Perceived Price	3.9840	0.71300
Perceived Availability	3.5279	0.77351
Labelling	3.8459	0.77841
Knowledge Levels	3.5443	0.72893
Subjective Norms	3.5836	0.77258
Environmental Concerns	4.0098	0.76298
Purchase Intention	3.7906	0.63556

Note: Valid N (listwise) = 305

On the basis of the above results, the mean values show that on average, the respondents were agreeing with the statements, as all of them are above "Neutral". The response distribution of

all the variables was deemed to be *consistent* because it was below 1 for each construct. A detailed account of each item is provided under the analysis of the Likert scale response items and results thereof are presented in Table 5.5 below.

5.4.2. Respondent Profile

The information shown in Table 5.3 presents a demographic description of respondents. The summary statistics on the sex-specific characteristics display that 64.9% of the consumers who participated in the current study were female and the remainder (35.1%) were male. Previous studies have variously confirmed that the two genders differ in their perspectives, rationales, motives, and behaviour (Bakewell & Mitchell, 2004; Miller, 1998; Otnes & McGrath, 2001). This study also confirms that it is vital for marketers to address these idiosyncrasies of gender. Women have been regarded as more selective and more likely to develop purchase intentions for produces that fits all of their desires, while men, on the other hand, like to enter a retail outlet, get what they need, and get out quickly (Lewis, 2013). Accordingly, men are not major comparison consumers and they are eager to pay a slightly higher price to speed up the process (Lewis, 2013). This explains why, during data collection, many male consumers were in a hurry and could not spare much time to fill a questionnaire.

Many respondents, (i.e., 38.4% of the respondents) were aged between 26 and 35 while the rest were above 35 and/or between 18 and 25. Studies have shown that many individuals usually become active consumers between the ages 26-35, after having completed their studies and having secured a job (Engel & Volkers Southern Africa, 2012). This finding was confirmed by Durmaz (2014) who also found that respondents between the age ranges of 26-35 took the first place in terms of consumption-related decisions. Moreover, a total of 63.6% of the respondents were either single or divorced or widowed. This can be due to the fact that many people in South Africa choose to be single, when divorced or widowed, or not to marry at all, but prefer **cohabitation** (or *masihlalisane* – which is not taken seriously as a form of relationship) – a relatively common marital status in the country (Goldblatt, 1999). Even though cohabitation is relatively common in South Africa, it is also expected that cohabitees tend to be unwilling to share their personal information with an outsider like a researcher due to the stigma attached to and lack of respect for cohabitees. Instead, cohabites report themselves as either single or married. The other problem, as opined by Budlender, Chobokoane and Simelane (2004), is that the term cohabitation is frequently mistaken,

particularly when translated into one's native language.

South Africa is known for its extreme linguistic diversity. Based on the results, English was the dominant language (36.4%), followed by the native language – Zulu (14.1%) which slightly surpassed Afrikaans (at 13.8%). The remainder represented the rest of the country's official languages, together with Sotho (form Lesotho) and "Other languages" which were specified by respondents. From the "Other languages", the dominant ones in their order of frequency were Esan language (Nigeria), Shona (Zimbabwe) and Amharic (Ethiopia) amongst others. The fact that English retained the highest frequency can be explained by the act that foreigners or other locals (e.g., Indians), who are reluctant to specify their home language, tended to classify themselves as English speakers. Some Afrikaans speaking individuals like to identify themselves as English speakers because they feel much closer or related to this group (Giliomee, 1966). However, this may no longer be true, considering the fact that the findings by Giliomee (1966) are fairly out-dated and may also be discredited by the high affinity of South Africans toward their home language and heritage.

Results on the level of education demonstrated that a total of 43.3% of the respondents had a matric qualification, while those who are at University or had a University qualification ranked second, with 42.0%. Both secondary with matric and University explain most of the variance under the education level as a demographic characteristic, while the rest was shared between the levels of education – primary, apprenticeship and FET colleges. Amongst the surveyed participants, all of them had, at least, some primary education. These findings suggested that many people in Johannesburg have some form of education and that the city is not just an economic hub of South Africa, but it is the also the country's *knowledge* hub.

In terms of the number of children, 56.1% of the respondents had no children. This can be due to the fact that many people confessed that they were either single or divorced or widowed, making no room for them to have children. However, 25.9% of the respondents had either 2 or more children, and hence such parents may be motivated to buy organic food to feed their children, just like the ones who had just one child. Under income level, many of the respondents (i.e., 27.2%) had incomes ranging between R11000 – R20000. The remainder was shared between those earning ≤ R1000 and > R20000. Moreover, 14.4% of the respondents have an income that exceeds R50000. Such folks are more likely to develop positive purchase intentions for organic food.

Table 5.3: Sample Profile Characteristics

RESULTS FOR DEMOGRAPHC CHARACTERISTICS					
Gender	**Frequency**	**Percentage (%)**	**Age**	**Frequency**	**Percentage (%)**
Male	107	35.1	< 18	0	0.0
Female	198	64.9	18-25	96	31.5
			26-35	117	38.4
			36-45	49	16.1
			46-55	27	8.9
			55-65	14	4.6
			≥ 66	2	0.7
Total	**305**	**100.0**	**Total**	**305**	**100.0**
Home Language	**Frequency**	**Percentage (%)**	**Marital Status**	**Frequency**	**Percentage (%)**
Afrikaans	42	13.8	Other	21	6.9
English	111	36.4	Single/Divorced/Widowed	194	63.5
Ndebele	6	2.0	Cohabitation	0	0.0
Northern Sotho	21	6.8	Married	90	29.5
Southern Sotho	12	3.9			
Sotho (Lesotho)	3	1.0	**Total**	**305**	**100.0**
Tsonga	6	2.0			
Tswana	14	4.6	**Educational Level**	**Frequency**	**Percentage (%)**
Venda	3	1.0			
Xhosa	16	5.2	No Education	0	0.0
Zulu	43	14.1	Primary	2	0.7
Swazi	4	1.3	Apprenticeship	3	1.0
Other Languages	24	7.9	Matric	132	43.3
			FET College	40	13.1
			University	128	42.0
Total	**305**	**100.0**	**Total**	**305**	**100.0**
Income Level	**Frequency**	**Percentage (%)**	**Number of Children**	**Frequency**	**Percentage (%)**
<R10000	63	20.7	None	171	56.1
R11000 - R20000	83	27.2	One	55	18.0
R21000 - R30000	47	15.4	Two or More	79	25.9
R31000 - R40000	42	13.8	**Total**	**305**	**100.0**
R41000 - R50000	26	8.5			
≥R50000	44	14.4	**Employment Status**	**Frequency**	**Percentage (%)**
			Unemployed	48	15.7
			Part-time	40	13.1
			Full-time	216	70.8
			Retired	1	0.3
Total	**305**	**100.0**	**Total**	**305**	**100.0**

The final demographic characteristic was linked to respondents' employment status. It was also interesting to note that 70.8% of the respondents were employed full time. This suggested that such individuals had stable incomes and if they are sensitized to buy organic food, they are more likely to become regular consumers. However, 15.7% of the respondents were unemployed; hence, this unfortunate state may negatively impact their purchase intentions. The remainders were either employed part-time or they were retired employees.

5.4.3. General Descriptive Analysis

In order to get a broader picture of consumer purchase intention or consideration for organic food, general data was gathered and the results thereof are presented in Table 5.4 below. Additionally, consumers were asked as to which retail outlet is their most preferred and the table below also displays related results.

Table 5.4: General Descriptive Analysis

RESULTS FOR OTHER DESCRIPTIVE STATISTICS					
Item	**Freq**	**%**	**Item**	**Freq**	**%**
Purchase Intention Frequency			**Purchase Intention**		
• Never	7	2.3	• 0%	29	9.5
• Few Times	11	3.6	• 25%	68	22.3
• Neutral	62	20.3	• 50%	107	35.1
• More than A Few Times	75	24.6	• 75%	73	23.9
• Always	150	49.2	• 100%	28	9.2
Total	**305**	**100.0**	**Total**	**305**	**100.0**
Consideration for OF	**Freq**	**%**	**Preferred Retail Shop**	**Freq**	**%**
• Never	33	10.8	• Woolworths	179	58.7
• Few Times	30	9.8	• Shoprite/Checkers	33	10.8
• Neutral	110	36.1	• Pick 'n Pay	65	21.3
• More than A Few Times	79	25.9	• Spar	20	6.6
• Always	53	17.4	• Other	8	2.6
Total	**305**	**100.0**	**Total**	305	**100.0**

Note: Freq = Freqency, % = Percentage

When asked how often do they intend to purchase organic food for their households, many of the respondents (i.e., 49.2%) said they would *always* have such positive intentions. 24.6% said they intend to purchase organic food more than a few times, 20.3% were neutral, 3.6%

said only a few times while 2.3% of the respondents said they *never* intend to buy organic food. This is a very small fraction (i.e., 2.3%) and does not significantly affect consumers' overall purchase intention. The fact that close to half of the surveyed respondents intended to purchase organic food is good news for organic food retailers.

When asked how often they consider purchasing organic food whenever they do their shopping, many of the consumers (36.1%) were neutral. This ambivalence can be a source of consumers' failure to actually buy organic food. Therefore, as noted above, consumers may have positive purchase intentions for organic food, but may not actually buy such produces when making their food-related shopping. This finding is consistent with previous studies that found a **discrepancy** between positive intentions and the actual behaviour (Armitage & Conner, 2001; Randall & Wolff, 1994; Sheeran, 2002). Also, 10.8% of the respondents said they would never consider buying organic food, making it vital for organic food retailers to alter such consumer attitudes and create favourable ones. This will be further elaborated under the section on managerial implications. The remainder was shared amongst those who considered purchasing organic food a few times (9.8%), more than a few times (25.9%) and always (17.4%). The fact that only 17.4% always consider buying organic food implies that they will *always* have an organic food produces within their shopping list.

The other general question sought to find out the approximate percentage of organic food that consumers intend to buy when making their ordinary food purchases. It was found that many of the surveyed respondents (i.e., 35.1%) said that when buying food, they intend to buy approximately 50% of organic produce. The least number of respondents (i.e., 9.2%) said they intend to buy *only* organic produce whenever they buy their food (i.e., they intend to buy 100% of organic food). The rest said they do not intend to buy organic food (i.e., 9.5%), while 22.3% of the surveyed respondents said they intend to purchase approximately 25% of organic food. Additionally, 23.9% said they intend to purchase approximately 75% of organic food when confronted with a food-related purchase situation.

Lastly, consumers were asked to share their insights regarding their most preferred retail outlet. Many and above half of the respondents (i.e., 58.7%) preferred Woolworths over other organic food retail stores. Pick 'n Pay was next with a preference score of 21.3%. This retail outlet was followed by Shoprite/Checkers, which yielded 10.8% and Spar with a preference score of 6.6%. Some consumers preferred "Other" retail outlets like Food Lovers Market,

Fruit and Veg and shopping online, e.g., at www.shoporganic.co.za, among others.

5.4.4. Descriptive Analysis for Likert Scale Response Items

In order to measure variability when using descriptive statistics, Lobsy and Wetmore (2012) suggested that ordinal measurement scale items must contain a median, mean or mode as measures of central tendency, together with frequencies in order to measure variability. Likert-type response items fall within the ordinal scale measurements (Boone & Boone, 2012). Moreover, Likert scales show a methodical continuum of response classifications – i.e. there is a pattern or order from Strongly Disagree to Strongly Agree. They also show a balanced number of both positive and negative response options and a numeric value can be assigned to each category (Lobsy & Wetmore, 2012).

5.4.5. Likert Scale Response Items

According to Boone and Boone, (2012), Likert-type response items are classified under ordinal scale measurements. They show a systematic continuum of response classifications – i.e. there is a methodological pattern from Strongly Disagree to Strongly Agree. One numeric value gets assigned to each category. The suggestion is that ordinal measurement scale items have to contain a mode, mean or median as measures of central tendency, along with frequencies so as to measure variability.

(a) Analysis of the Mean [As a Measure of Central Tendency]

- Table 5.5 below indicates that the construct consumer attitude is fairly normally distributed, with mean scores ranging between 3.48 – 4.02 – i.e. revolving around the center, which is represented by 3 (as 'Neutral'). This may explain why all the measurement instruments were reliable and that respondents were fairly agreeing with the statements.
- In terms of health consciousness, the mean score ranged between 2.86 and 4.65. This may imply that respondents were either agreeing or disagreeing with the statements. This explains why some items were not reliable, and hence were to be removed from further analysis
- Under the construct – perceived price, many respondents seemed to be agreeing with the statements and the mean score ranged between 3.76 and 4.24. Moreover, all the responses were almost close to each other, with no signs of skewness.
- Labelling had a mean score of between 3.83 and 4.08. This means that respondents were mainly agreeing with the statements.

- Knowledge levels had a mean score that ranged between 3.15 and 3.64. Accordingly, the items were not considered extreme, and did not skew the data to either direction.
- The mean scores for subjective norms ranged between 2.72 and 3.64. This implies that respondents were either agreeing or disagreeing with the statements; however, there were no signs of severe skewness.
- Environmental concerns had a mean score that ranged between 2.88 and 4.26. This implies that most of the respondents were fairly agreeing with the statements, but there were also signs of skewness, though not severe.
- Purchase intentions had a mean score that ranged between 3.74 and 4.08. This mean score is above 'Neutral', and implies that many respondents were agreeing with the statements.

Detailed results for all the mean values for the items are presented in Table 5.5 below.

(b) Analysis of Frequencies [As a Measure of Variability]

I. Consumer Attitude:

- **CA1 to CA4** – Many of respondents for the four measurement items agreed with the statements that said "I think it is reasonable for me to intend to buy organic food"; "I am motivated to purchase organic food because of its benefits"; I believe it is better to intend to buy organic than conventional food" and "I intend to buy organic food because of its positive image to me." The total number of such agreements were 143 (46.9%), 123 (40.3%), 109 (35.7%) and 96 (31.5%) respectively. The least number for all items reflected those who strongly disagreed with the statements and they included – 1 (0.3%), 2 (0.7%), 2 (0.7%) and 14 (4.6%) respectively. The rest either disagreed, remained neutral or strongly agreed with the statements.

II. Health Consciousness:

- **HC1 –** A total number of 218 respondents (i.e., 71.5%) agreed as well as strongly agreed with the statement that their health is important. The least number of respondents (i.e. 1 – equivalent to 0.3%) of the respondents strongly disagreed with this statement. The rest either disagreed with the statement or remained neutral.
- **HC2 –** Many of respondents (i.e., 109 – equivalent to 35.7%) remained neutral when asked whether conventional food is as healthy as organic food. The

lowest number of respondents – 19 (i.e., 6.6%) strongly agreed with the statement, while the remainder strongly disagreed, disagreed or agreed with the statement.

- **HC3 –** 121 respondents (i.e., 340.3%) were many and remained neutral when asked whether organic food is better for their health owing to the fact that they are grown naturally. The least number of consumers (i.e., 1 respondent – corresponding to 0.3%) strongly disagreed with this statement. The remaining number of respondents disagreed, agreed or strongly agreed with the statement.
- **HC4 –** There was a great number of respondents (119 or 39%) that agreed with the statement that they intend to buy organic food due to its positive image to them. However, the least number of these respondents (2, which corresponded to 0.7%) strongly disagreed with this statement. The remainder disagreed, remained neutral or strongly agreed with the statement.
- **HC5 –** A number of respondents (121 – parallel to 39.7%) agreed with the statement that said organic food is healthier as it has less or no chemical residues. The minority, 3 respondents (i.e., 1%) strongly disagreed with this statement. The rest disagreed, remained neutral or strongly agreed with the statement.

III. Perceived Price:

- **PR1 to PR5** – Many of respondents for the five measurement items strongly agreed with the statements that said "The price of organic food is important to me"; "Organic food must be priced the same as conventional food"; "It is important to seek the reasonably priced foodstuffs within the retail outlet"; and that they intend to buy organic food if sold at reasonable prices. The corresponding number of responses (as per the statements above) included 118 (38.7%); 128 (42%); 101 (33.1%) and 160 (52.5%) respectively. Part of those items that yielded most of the responses included: (i.e., for PR2) – 106 (38.4%) of the respondents agreed with the statement that they refrain from intending to buy organic food owing to its premium price. The least number of respondents strongly disagreed with the above statements. The total number of such disagreements (from PR1 – PR5) were 4 (1.3%); 9 (3%); 3 (1%); 10 (3.3%) and 3 (1%). The rest disagreed, remained neutral or agreed with the

statements, except for PR2, where respondents strongly agreed rather than agreed with the statement.

IV. Perceived availability:

- **AV1 to AV5** – A greater part of respondents for the five measurement items agreed with the statements that said "Organic food is sufficiently available where I shop"; "I can easily find organic food in my neighbourhood"; "I would consider purchasing organic food if it is available where I shop purchase food produces"; and that they intend to buy organic food if such produces are more accessible in the market. The corresponding number of responses (as per the order of items above) included 85 (27.9%); 91 (29.8%); 118 (38.7%) and 123 (40.3%) respectively. A section of those who formed the greater part (i.e., for AV2), 91 (29.8%) of the respondents disagreed with the statement that it is hard to find organic food in the store they purchase. A few respondents strongly disagreed with the above statements, except for item AV2, where 29 (9.5%) of the respondents strongly agreed with the statement. The total number of other such disagreements (from AV1, AV3 -AV5) were 17 (5.6%); 29 (9.5%); 6 (2%); and 3 (1%). The remaining ones disagreed, remained neutral or strongly agreed with the statements, except for PR2, where the remaining respondents strongly disagreed, remained neutral or agreed with the statement.

V. **Labelling:**

- **LA1 –** A total of 118 respondents (i.e. 38.7%) agreed as well as strongly agreed with the statement that labels are a way of differentiating organic to conventional food. The least number of respondents (i.e. 5 – equivalent to 1.6%) of the respondents strongly disagreed with this statement. The rest either disagreed with the statement or remained neutral.
- **LA2 –** Many of respondents (i.e., 94 – equivalent to 30.8%) agreed with the statement that they are able to recognise an organic food label. The smallest number of respondents – 9 (i.e. 3%) strongly disagreed with the statement while the others disagreed, remained neutral or strongly agreed with the statement.
- **LA3 –** 104 respondents (i.e., 34.1%) were many and agreed with the statement that they have more trust in an organic food with an accustomed label. The

least number of consumers (i.e., 7 respondents – corresponding to 2.3%) strongly disagreed with this statement. The remaining number of respondents disagreed, remained neutral or strongly agreed with the statement.

- **LA4 –** There was a preponderance of respondents (i.e., 110 or 36.1%) remained neutral in response to the statement that they can tell if a label is genuine or not. However, the least number of these respondents (i.e., 25, which corresponded to 8.2%) strongly disagreed with this statement. The remainder disagreed, agreed or strongly agreed with the statement.
- **LA5 –** A total of 96 (i.e. 31.5%) disagreed with the statement that they had no idea about organic food labels. The least number of respondents (i.e., 37 – equivalent to 12.1%) agreed with this statement. The rest strongly disagreed, remained neutral or strongly agreed with this statement.

VI. Knowledge Levels:

- **KL1 to KL5 –** Many of the respondents remained neutral or agreed with the following statements: KL2 – KL4 ~ "It is difficult for me to know if the produce is organically produced"; "I know that organic food tastes better than conventional food"; and "I know that organic food is fresher than conventional food." The corresponding frequencies and percentages for the above statements were 97 (31.8%); 113 (37.1%) and 96 (31.5). A number of responses from respondents included those represented by KL1 and KL5, and their resultant frequencies and percentages were 105 (34.4%) and 103 (33.8%) respectively. All the items with the least number of responses showed that respondents strongly disagreed with the above statements. The total number of such disagreements (from KL1 – KL5) are 12 (3.9%); 13 (4.3%); 13 (4.3%); 9 (3%) and 4 (1.3%). The rest disagreed, agreed or strongly agreed with the statements (i.e. for KL2 –KL4), while for KL1 and KL5, the respondents remained neutral instead of (dis)agreeing with the statements.

VII. Subjective Norms:

- **SN1 to SN5 –** A number of respondents remained neutral, agreed and/or disagreed with the statements below. They remained neutral to these statements: "People important to me would like me to consider purchasing organic food"; "People who influence what I do think I should intend to buy organic food" and "My family would me to have organic food purchasing

plans" (SN1; SN2 and SN5 respectively). The corresponding frequencies and their percentages for the above statements were 103 (33.8%); 101 (33.1%) and 118 (38.7). The other majority responses from respondents included those represented by SN3 (agree) and SN4 (disagree). Their resulting frequencies and percentages were 150 (49.2%) and 97 (31.8%) respectively. The items with the least number of responses showed that respondents strongly disagreed and/or strongly agreed with the above statements. The total number of such strong disagreements are SN1; SN3 and SN5, and their corresponding frequencies are 9 (3%); 6 (2%); 5 (1.6%). Moreover, the total number of such strong agreements included SN2 and SN4, with frequencies and percentages of 27 (8.9%) and 40 (13.1%) respectively.

VIII. Environmental Concerns:

- **EC1 to EC5** – Many of respondents agreed with the statements that said "The environment should be protected through environmentally friendly farming techniques"; "Organic food is better for the environment because it uses no/less chemical residues"; "Organic food is better for the environment because it uses no/less growth hormones"; "Organic food practices are better for the environment than convention farming methods" (EC1; EC3; EC4 and EC5 respectively). The corresponding number of responses (as per the above statements) included 135 (44.3%); 120 (39.3%); 118 (38.7%) and 123 (40.3%) respectively. Part of those items that yielded most of the responses included: (i.e., for EC2), 97 (31.8%) of the respondents remained "Neutral" when asked whether the production of conventional food does not harm the environment. The least number of respondents strongly disagreed with the above statements, except for one where respondents strongly agreed with the statements. The total number of such disagreements (for EC1; EC3; EC4; EC5) are 5 (1.6%); 4 (1.3%); 2 (0.7%); 4 (1.3%) respectively. For those that strongly agreed are represented by EC2, with a frequency and a percentage of 34 (11.1%).

IX. Purchase Intention:

- **PI1 to PI8 –** Many of respondents for the four measurement items agreed with the statements that linked each independent variable with dependent variable. The total numbers of such agreements (their frequencies and corresponding percentages) were: PI1 ~ 108 (35.4%); PI2 ~ 131 (43%); PI3 ~ 114 (37.4%);

PI4 ~ 125 (41%); PI5 ~ 115 (37.7%); PI6 ~ 133 (43.6%) and PI8 ~ 120 (39.3%). For the seventh variable (i.e., PI7), many of the respondents remained neutral and the frequency together with its corresponding percentage were 89 (29.2%). The least number for all items reflect those who strongly disagreed with the statements and they included (from PI1 to PI8) – 5 (1.6%); 3 (1%); 6 (2%); 8 (2.6%); 8 (2.6%); 5 (1.6%); 22 (7.2%) and 7 (2.3%) respectively. The rest disagreed, remained neutral (except responses for PI7 that show that respondents agreed with the statements) or strongly agreed with the statements**.**

The table below shows a detailed summary of the discussion above.

Table 5.5: Analysis of the Likert Scale Response Items

Construct		Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		
		Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Mean
Consumer attitude	CA1	1	0.3	9	3.0	63	20.7	143	46.9	89	29.2	4.02
	CA2	2	0.7	20	6.6	65	21.3	123	40.3	95	31.1	3.95
	CA3	2	0.7	20	6.6	73	23.9	109	35.7	101	33.1	3.94
	CA4	14	4.6	45	14.8	89	29.2	96	31.5	61	20.0	3.48
Health Consciousness	HC1	1	0.3	2	0.7	13	4.3	71	23.3	218	71.5	4.65
	HC2	20	6.6	100	32.8	109	35.7	57	18.7	19	6.2	2.86
	HC3	1	0.3	12	3.9	61	20.0	123	40.3	108	35.4	4.07
	HC4	2	0.7	6	2.0	61	20.0	119	39.0	117	38.4	4.12
	HC5	3	1.0	7	2.3	55	18.0	121	39.7	119	39.0	4.13
Perceived Price	PR1	4	1.3	17	5.6	53	17.4	113	37.0	118	38.7	4.06
	PR2	9	3.0	41	13.4	56	18.4	106	34.8	93	30.5	3.76
	PR3	3	1.0	21	6.9	48	15.7	105	34.4	128	42.0	4.10
	PR4	10	3.3	44	14.4	57	18.7	93	30.5	101	33.1	3.76
	PR5	3	1.0	16	5.2	45	14.8	81	26.6	160	52.5	4.24
Perceived availability	AV1	17	5.6	82	26.9	71	23.3	85	27.9	50	16.4	3.23
	AV2	32	10.5	91	29.8	77	25.2	76	24.9	29	9.5	2.92
	AV3	29	9.5	87	28.5	59	19.3	91	29.8	39	12.8	3.08
	AV4	6	2.0	15	4.9	60	19.7	118	38.7	106	34.8	3.99
	AV5	3	1.0	12	3.9	49	16.1	123	40.3	118	38.7	4.12
Labelling	LA1	5	1.6	14	4.6	50	16.4	118	38.7	118	38.7	4.08
	LA2	9	3.0	44	14.4	68	22.3	94	30.8	90	29.5	3.70
	LA3	7	2.3	28	9.2	81	26.6	104	34.1	85	27.9	3.76
	LA4	25	8.2	83	27.2	110	36.1	47	15.4	39	12.8	2.98
	LA5	39	12.8	96	31.5	90	29.5	37	12.1	43	14.1	2.83
Knowledge Levels	KL1	12	3.9	50	16.4	85	27.9	105	34.4	53	17.4	3.45
	KL2	13	4.3	80	26.2	97	31.8	76	24.9	39	12.8	3.15
	KL3	13	4.3	53	17.4	113	37.0	69	22.6	57	18.7	3.34

	KL4	9	3.0	32	10.5	96	31.5	89	29.2	79	25.9	3.64
	KL5	4	1.3	22	7.2	98	32.1	103	33.8	78	25.6	3.75
Subjective Norms	SN1	9	3.0	57	18.7	103	33.8	86	28.2	50	16.4	3.36
	SN2	40	13.1	97	31.8	101	33.1	40	13.1	27	8.9	2.72
	SN3	6	2.0	16	5.2	51	16.7	150	49.2	82	26.9	3.94
	SN4	51	16.7	97	31.8	71	23.3	46	15.1	40	13.1	2.76
	SN5	5	1.6	45	14.8	118	38.7	77	25.2	59	19.3	3.45
Environmental Concerns	EC1	5	1.6	6	2.0	27	8.9	135	44.3	132	43.3	4.26
	EC2	39	12.8	81	26.6	97	31.8	54	17.7	34	11.1	2.88
	EC3	4	1.3	7	2.3	73	23.9	120	39.3	101	33.1	4.01
	EC4	2	0.7	5	1.6	77	25.2	118	38.7	103	33.8	4.03
	EC5	4	1.3	3	1.0	80	26.2	123	40.3	95	31.1	3.99
Purchase Intentions	PI 1	5	1.6	23	7.5	81	26.6	108	35.4	88	28.9	3.82
	P1 2	3	1.0	15	4.9	48	15.7	131	43.0	108	35.4	4.07
	PI 3	6	2.0	46	15.1	65	21.3	114	37.4	74	24.3	3.67
	PI 4	8	2.6	20	6.6	58	19.0	125	41.0	94	30.8	3.91
	PI 5	8	2.6	29	9.5	75	24.6	115	37.7	78	25.6	3.74
	PI 6	5	1.6	11	3.6	47	15.4	133	43.6	109	35.7	4.08
	PI 7	22	7.2	75	24.6	89	29.2	84	27.5	35	11.5	3.11
	PI 8	7	2.3	18	5.9	64	21.0	120	39.3	96	31.5	3.92

Note: Freq = Frequency; % = Percentage

5.4.6. Measurement of Reliability and Validity

The current study used the following as an acceptable threshold for Cronbach alpha value – $\{0.6 \leq \alpha < 0.7\}$ plus $\{0.7 \leq \alpha < 0.9\}$ which depicted a good reliability coefficient as suggested by Nunnally (1978). This study managed to reach these minimum threshold levels and as depicted in Table 5.6 below. However, this was achieved after removing the items that were pulling down the Cronbach's α value. The items that were eliminated included HC1, HC2; AV1; AV2; AV3; LA4, LA5; KL2; SN2, SN4; EC1, EC2. Once these 12 items were removed, the Cronbach's α value improved, reaching the minimum and acceptable cut-off points. By and large, the Cronbach α value for all constructs showed a fairly acceptable internal consistency as the minimum threshold of 0.60 (i.e., the *marginally acceptable* threshold) was successfully met. Specifically, Cronbach's α value for the variables under study ranged between 0.616 and 0.861. Of all the 9 constructs, 4 met the marginally acceptable threshold of above 0.6 (as suggested by Hair et al., 2007) while the remaining 5 constructs met the acceptable threshold of 0.7 (as suggested by Byrne, 2006). Overall, the study instruments were '*statistically good'*. The Cronbach's α value for all constructs are presented in the Table 5.6 below.

Table 5.6: Testing the Reliability of Constructs – Cronbach's Alpha

Research Constructs	Research Items Used	Corrected Item to Total	Cronbach α Value	Standardised Cronbach α Value
Consumer attitude (CA)	CA1 CA2 CA3 CA4	0.693 0.744 0.708 0.593	0.841	0.850
Health Consciousness (HC)	HC3 HC4 HC5	0.534 0.690 0.634	0.780	0.781
Perceived Price (PR)	PR1 PR2 PR3 PR4 PR5	0.400 0.480 0.547 0.500 0.514	0.726	0.729
Perceived Availability (AV)	AV4 AV5	0.695 0.695	. 0.818	0.820
Labelling (LA)	LA1 LA2 LA3	0.379 0.481 0.422	0.616	0.615
Knowledge Levels (KL)	KL1 KL3 KL4 KL5	0.353 0.464 0.507 0.328	0.632	0.629
Subjective Norms (SN)	SN1 SN3 SN5	0.548 0.439 0.437	0.661	0.661
Environmental Concerns (EC)	EC3 EC4 EC5	0.734 0.789 0.688	0.861	0.861
Purchase Intention (PI)	PI 1 PI 2 PI 3 PI 4 PI 5 PI 6 PI 7 PI 8	0.477 0.604 0.368 0.535 0.583 0.534 0.347 0.580	0.791	0.797

5.4.7. Corrected Item-to-Total Value

These are correlations between every single item and the overall score from a questionnaire (Field, 2006). A reliable scale has items that correlate well with the total – i.e. they are at ≤ 3 on a 5 point Likert scale for a fairly large sample size. Items with low correlations are usually

eliminated. This was the case with the 12 items that were dropped due to their negative effect on reliability. Therefore, corrected item-to-total values helped in underlining instruments that were a bad measure. The higher the value for corrected-item-to-total value, the higher the Cronbach alpha value. This was depicted by the high corrected item-to-total values for perceived availability, consumer attitude and environmental concerns in Table 5.6 above.

5.5. Testing the Measurement Model

The initial phase in the SEM process was to verify the measurement model, by applying CFA to latent variable factors. AMOS 21 was used to test the reliability and validity as well as the conceptual model fit of measures using CFA that pooled together each research construct measured by reflective indicators (Anderson & Gerbing, 1988). The acceptability of the measurement model was assessed by:

- Checking the reliability of each of the variables, assessed by the statistical significance of the indicator loadings;
- Checking validity – both convergent and discriminant validity;
- Checking the criteria of overall model fit with the data

A modification index was implemented to choose indicator variables in each of the variables. After constant filtering, a total number of 17 items were removed in the final model, but all the remaining variables had at least 2 items with acceptable correlation coefficients.

5.5.1. Reliability: Analysis of the CR Values

After all the correlation coefficients were found to be significantly above the recommended thresh-hold of 0.5 (Anderson & Gerbing, 1988), the researcher calculated CR scores. The results of the CR calculations are presented in Table 5.8 below and the *actual computations* are provided in Appendix II. As the Cronbach α is a necessary, but insufficient condition to confirm the reliability of a measure, CR was a satisfactory alternative to confirm whether the instruments are reliable. The constructs of AV and LA met the minimum threshold of recommended by Bagozzi and Yi (1988) of above 0.6, and this meant that the CR values for AV and LA (i.e., 0.667 and 0.661 respectively) had a *marginally* acceptable reliability score. The remaining constructs had a CR value that was above 0.7 (i.e., between 0.748 and 0.856). Therefore, most of the instruments measuring the constructs were high enough to yield acceptable CR scores for the constructs as recommended by Hulland (1999). This indicated that the reliability and internal consistency of most instruments had an acceptable score.

5.5.2. Validity: Discriminant and Convergent Validity

5.5.2.1. The Assessment of Discriminant Validity [Correlation Matrix]

To investigate the distinctiveness of the variables, an assessment of discriminant validity was done. Discriminant validity was assessed after transforming the data and then calculating the correlations between constructs. Table 5.8 below presents the results from the correlation matrix. Even if the inter-correlations between the variable were relatively high, they were still marginally acceptable as suggested by (Hulland, 1999). The results demonstrate that there is no 100% correlation between constructs – i.e. no similarity between variables. Therefore, the study variables were found to be unique or dissimilar – there was a sense of inimitability. The inter-construct correlations ranged between 0.048 and 0.566. Since all of the correlations between constructs were less than 1, such results highlighted that existence of discriminant validity was indisputable. Likewise, the variables did not display any problems of multicollinearity, for instance, a high correlation value of > 0.8. As all the correlations were under 0.8, this meant that they met the threshold recommended by Fraering and Minor (2006) and as such indicated the existence of discriminant validity. The lesser the value, the more unique the variables are, for example, the correlation between Perceived Price and Subjective Norms of 0.048. Thus, judging from the inter-construct correlation matrix in Table 5.7 below, discriminant validity existed, owing to the fact that the constructs were highly distinct from each other.

Table 5.7: Inter-Construct Correlation Matrix

Research Constructs	CA	HC	PR	AV	LA	KL	SN	EC	PI
Consumer Attitude (CA)	1								
Health Consciousness (HC)	0.556**	1							
Perceived Price (PR)	0.061	0.138*	1						
Perceived Availability (AV)	0.255**	0.226**	0.361**	1					
Labelling (LA)	0.350**	0.342**	0.107	0.087	1				
Knowledge Levels (KL)	0.485**	0.415**	0.067	0.162**	0.389**	1			
Subjective Norms (SN)	0.533**	0.356**	0.048	0.149**	0.304**	0.510**	1		
Environmental Concerns (EC)	0.338**	0.499**	0.097	0.117*	0.236**	0.409**	0.287**	1	
Purchase Intentions (PI)	0.457**	0.408**	0.296**	0.327**	0.274**	0.418**	0.441**	0.448**	1

Source: This Study

Essentially, the above correlation matrix displayed that all the links between the study variables were lower than 0.8. For this reason, discriminant validity is confirmed. Another alternative way of checking the existence of discriminant validity was to use the shared variance as discussed below.

5.5.2.2. Shared Variance (Squared Correlation)

Shared variance is the amount of variance that a construct is able to explain in another construct (Afthanorhan & Ahmad, 2013). In order to check the existence of discriminant validity between constructs was to compare the variance-extracted estimates of the measurement instruments with the square of the parameter estimate between these measurements. . To begin with, as recommended by Nunnally and Bernstein (1994), the least AVE value for every multi-item variable should be greater than the highest combined variance between constructs. If the variance-extracted estimates of the constructs are found to be higher than the square of the correlation between two constructs, there would be evidence to justify the existence of discriminant validity (Fornell & Larcker, 1981). In view of that, the variable SN (which had the least value that met the marginally acceptable threshold) recorded an AVE value of 0.40. This variable had a value that was larger than the maximum shared variance value between constructs, where the highest shared variance of 0.309 (i.e., 0.556^2) was recorded in the correlation between CA and HC. The results confirm a marginally acceptable level of the validity of the research scales. For example, the shared variance between HC and SN was calculated to be $0.356^2 = 0.127$. The variance-extracted estimates for the two constructs, as explained above, were greater than the square of the correlation. And so, the computed findings supported the discriminant validity of constructs as 'the variance extracted estimates should be greater than the squared correlation estimate' to warrant the existence of discriminant validity (Hair et al. 2006:778).

To further determine discriminant validity, the researcher performed a chi-squire difference in any paired latent constructs (which constrained the factor inter-correlations to unity) through the use of CFA tests as suggested by Anderson and Gerbing, 1988). Accordingly, all the two-factor CFA tests results and all sets of the variables revealed a satisfactory level of discriminant validity. Largely, the methods used to check discriminant validity submitted that discriminant validities existed. Therefore, at this point, it is worth noting that based on the findings of this study, support for the existence of discriminant validity is provided.

The other important aspect of checking whether the instrument measures what it purports to measure is through convergent validity, and the results are discussed below.

5.5.2.3. The Assessment of Convergent Validity

The results of the AVE calculations are presented in Table 5.8 below and the *actual calculations* can be found in Appendix II. To measure convergent validity, two methods were utilised. To begin with, as recommended by Nunnally and Bernstein (1994), the least AVE value for every multi-item variable should be 0.5. However, in the social sciences the minimum threshold of 0.30 is a marginally accepted (Hair et al., 2006). The results of this study showed an AVE value of above 0.4, except for KL that had a low AVE value of 0.35. Table 2 presents key descriptive statistics of reliability analyses for the four constructs. The composite reliabilities are above 0.85 and therefore well above the recommended minimum threshold of 0.6 (Bagozzi and Yi, 1988). The average variance extracted (AVE) ranges from 0. to 0.78 (Fornell and Larcker, 1981). In addition, all of the coefficient alpha values exceeded 0.8 and according to Nunnally (1978), the threshold value is 0.7 and all the correlation coefficients were significantly above the recommended thresh-hold of 0.5 (Anderson and Gerbing, 1988). These results confirm measures measurement reliability and provide support for an acceptable degree of internal consistency between the corresponding indicators and for satisfying the minimum requirements for justifying convergent validity (Bagozzi, Yi, and Phillips, 1991).

The composite reliabilities are above 0.6 as recommended by Bagozzi and Yi (1988). The AVE values ranged from 0 to 0.68 (Fornell & Larcker, 1981). Additionally, all of the coefficient alpha values exceeded the marginally acceptable threshold of 0.6 (according to Nunnally, 1978) and all the standardised regressing weights were significantly above the recommended threshold of 0.5 (Anderson & Gerbing, 1988). These results confirmed that the minimum requirements for justifying convergent validity were successfully met (Bagozzi, Yi, & Phillips, 1991).

Alternatively, the current study used the item-to-total correlations for the constructs to test convergent validity. As displayed in Table 5.6, most of the constructs achieved the recommended threshold of 0.5 and the marginally acceptable threshold of 0.4. Even though convergent validity for some instruments is questionable, many items reached the recommended threshold to justify a fairly acceptable level of convergent validity. Perhaps the

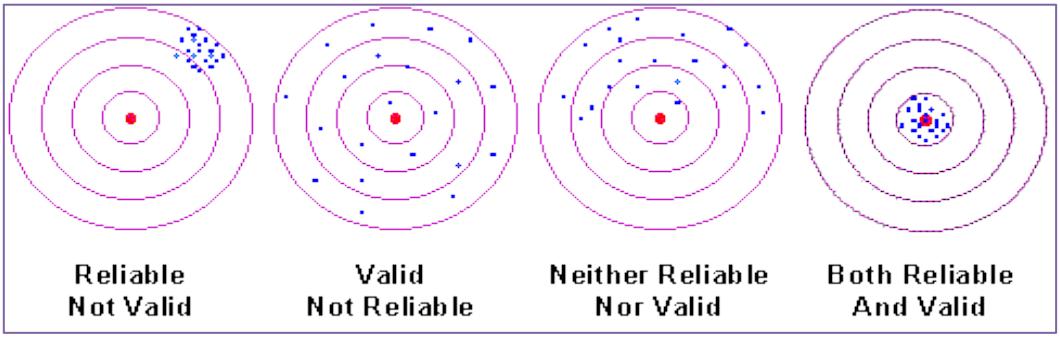
model may not be a credible representation of the underlying structures of empirical data.

5.5.2.4. Resemblances between Shared Variance and AVE

Shared variance is the amount of variance in non-latent variables *in relation to another variable* that a latent variable is able to explain while AVE is the *average* amount of variance in observed variables that a latent variable is able to explain (Farrell, 2009). In line with Fornell and Larcker (1981), if AVE for every single variable is more than its shared variance in comparison with any other variable, then discriminant validity is reinforced. Hair et al. (2006:778) also opined that "*the variance extracted estimates should be greater than the squared correlation estimate"*. The current study found that discriminant validity does exist and the results of this are presented above – i.e. the highest shared variance of 0.309 (0.556^2) was less than the lowest marginally acceptable value of 0.40, hence this justified the existence of discriminant validity as above-mentioned.

The figure below shows some of the outcomes that were expected after calculating both validity and reliability.

Figure 5.2: Expected Outcomes after Reliability and Validity Computation



Source: Google Images

Whenever reliability and validity are calculated, there are four possible outcomes, as represented above. The results of the current study showed that all the instruments were reliable, as both the computed Cronbach's α and CR values met the recommended threshold. Moreover, 8 out of 9 constructs were both reliable and valid. However, one of the remaining variables, i.e., KL was found to be reliable, but fell just below the marginally acceptable threshold. This finding implied that it is possible for a measure to be reliable and yet be invalid, as it has been noted in foregoing studies. Hence, a measure can be reliable without

being valid as suggested by Weiner (2007). Overall, the current study provided satisfactory evidence to justify the fact that the item scales used were reliable and fairly measured what they purported to measure.

The next section will provide an account of the calculated results from inferential statistics – i.e. CFA and Path Modeling. Measurement model was tested first prior to testing the structural model – a two-step process suggested by Jöreskog and Sörbom (1993) as well as Anderson and Gerbing (1988), who termed it 'a two-stage procedure'.

5.6. Inferential Statistics

In order to analyse the antecedents of consumer purchase intention for organic food, the current study used SEM approach. This approach was selected for the reason that some of the predictors of consumers' purchase intention to purchase, for example, consumer attitude, knowledge levels cannot be observed directly, but could be viewed as latent variables and hence could only be measured by more than one items. Additionally, SEM allows for a simultaneous analysis of the relationships between endogenous and exogenous variables in the organic food purchase intention model (Khine et al., 2013). Accordingly, SEM was used to determine the link between the study constructs based on the conceptual model presented in Figure 3.1. The study followed a two-step model building procedure, which tested the measurement model prior to testing the structural model, as suggested by Jöreskog and Sörbom (1993). Moreover, SEM has been termed 'a two-stage procedure' by Anderson and Gerbing (1988) for the reason that it begins with CFA and ends with Path Modeling. Therefore, the calculation of CR values (for reliability) and AVE values (for validity) was done in advance of testing of the hypothesised causative relationships between the constructs, according to the structural model in Appendix III.

5.6.1. CFA Model Analysis: Measurement Reliability, Validity and Model Fit

CFA was performed first, in order to validate all the variables under study. It was used to check the reliability, validity of instruments and to check model fit. Reliability (with regards to Composite Reliability) and validity (with respect to AVE) have been discussed above but the calculated values for these measurements have not been presented. The table below presents the results of CR and AVE values. All the composite reliabilities indicated reliability scores that were in excess of 0.60 – i.e., they were marginally acceptable. The results of estimates and their corresponding variables are presented in Table 5.8 below.

Table 5.8: Accuracy Analysis Statistics

Research Construct		C.R. Value	AVE Value	Factor Loading
Consumer attitude (CA)	**CA1**	0.801	0.669	0.779
	CA2			0.842
	CA3			0.790
	CA4			0.659
Health Consciousness (HC)	**HC3**	0.749	0.560	0.667
	HC4			0.822
	HC5			0.747
Perceived Price (PR)	**PR2**	0.798	0.402	0.527
	PR3			0.640
	PR4			0.594
	PR5			0.693
Perceived Availability (AV)	**AV4**	0.667	0.695	0.820
	AV5			0.847
Labelling (LA)	**LA2**	0.661	0.429	0.748
	LA3			0.547
Knowledge Levels (KL)	**KL1**	0.750	0.355	0.566
	KL3			0.614
	KL4			0.607
Subjective Norms (SN)	**SN1**	0.748	0.407	0.657
	SN3			0.546
	SN5			0.675
Environmental Concerns (EC)	**EC3**	0.749	0.682	0.801
	EC4			0.889
	EC5			0.783
Purchase Intentions (PI)	**PI 1**	0.856	0.411	0.646
	PI 2			0.718
	PI 4			0.530
	PI 5			0.694
	PI 6			0.584
	PI 8			0.657

**Scales: 1 – Strongly Disagree; 3 – Neutral; 5 – Strongly Agree*

In terms of the correlation coefficients presented in the above table, it is worth noting that, so far, there was no accord regarding what constitutes a 'high' or 'low' factor loading. In the social sciences the threshold is 0.30, but in marketing, 0.5 is a fairly acceptable minimum threshold (Chinomona, 2014; Hair et al., 2006). However, the higher the factor loading, the better the outcomes (Peterson, 2000; Hair et al. 2006).

The following section provides a discussion on the measurement model and model fit (under CFA), as reliability and validity were discussed in the previous sections.

- *Measurement of CFA Model* – SEM was performed through AMOS 21 statistical software in order to estimate the underlying relationships between the independent variables on the outcome variable – purchase intention. The study made use of the MLE technique, owing to the reason that it has desirable asymptotic properties, for instance, minimum variance and that of unbiasness (Chinomona, 2014). The initial specification search resulted in the exclusion of some of the measurement items with scales that had item loadings below the least acceptable threshold of 0.5 as suggested by Byrne (2001) and Hair et al. (2003). The aim of the exclusion was to improve the overall model fit (to be discussed below). After the elimination of measurement items that had loadings lower than 0.5, the remaining items converged fairly (therefore, convergent validity reached a fairly good level – as per the AVE values) and reliably measured their corresponding variables (seen from CR values).

5.6.1.1. Model Fit (CFA Analysis)

There are a number of model fit indices available to researchers and several fit indices must be used to determine the overall model fit (Arbuckle & Wothke, 2004). However, there has been a great discrepancy in agreement on the basis of the cut-off points for these different indices, specifically on which indices to report. This is likely to create distress for researchers owing to the available contradictory evidence. According to Hair et al. (2006), the fit indices point toward the validity of the measurement model. In addition, analysis of these indices must depend on at least one incremental fit index and one absolute fit index. In order to account for the influence of sample size, dividing the X2 measure (CMIN) by degrees of freedom (DF) is frequently applied (Hair et al., 2006). To demonstrate an acceptable fit, the value should be lower than 3.0 (Hair et al., 2006).

Root Mean Square Error of Approximation (RMSEA) is also an absolute fit index and the increase in the index is based on the error in prediction (Hair et al., 2006). RMSEA should be below 0.07 (Browne & Cudeck, 1993). Comparative Fit Index (CFI) usually accounts for model complexity. The suggested threshold is > 0.9, where 1 symbolizes a perfect fit (Hair et al., 2006; Arbuckle & Wothke, 1999). The parsimony fit measures signifies the extent of model fit for each projected coefficient. It attempts to adjust any ‘over-fitting’ of the model

and assess the parsimony of the model in comparison with the Goodness of Fit Index (GFI).

When taking into account all of these fit indexes for the overall-model valuation as represented in Table 5.9 below, it can be said that there is a fairly acceptable fit between the proposed model and sample data. All of the indices, including the so-called Goodness of Fit indices exceeded the 0.90 minimum thresholds, and thus indicating a provisionally acceptable model fit (Wang, Wang & Yang 2005). Furthermore, the results show that the model is parsimonious for the reason that the PRATIO value is not far off to 1 and x2/g.l and is incorporated amongst the interval values recommended by Arbuckle and Wothke (2004).
As per the above discussion, the results on the model fit (under CFA) are presented in Table 5.9 below.

Table 5.9: Model Fit Summary (CFA)

Model Fit Indices	Acceptable Threshold	Study Threshold	Acceptable / Unacceptable
Chi-Square Value: $\chi 2/(df)$	<3	2.096	Acceptable
Comparative Fit Index (CFI)	- > 0.900	0.931	Acceptable
Goodness of Fit Index (GFI)	> 0.900	0.905	Acceptable
Incremental Fit Index (IFI)	> 0.900	0.942	Acceptable
Normed Fit Index (NFI)	> 0.900	0.928	Acceptable
Tucker Lewis Index (TLI)	> 0.900	0.910	Acceptable
Parsimony Fit (PRATIO)	Close to 1	0.870	Acceptable
Random Measure of Standard Error Approximation (RMSEA)	< 0.08	0.064	Acceptable

Source: This Study

5.6.1.2. Post Hoc Modifications or Model Trimming

Despite the fact that the model showed an acceptable model fit, this was achieved after exploring what may have been a good model given the data. Post hoc model modifications were performed in order to improve the overall fitting and perhaps develop a more parsimonious model. On a similar note, MacCallum (1986) as well as MacCallum Roznowski and Necowitz (1992) opined that any changes made on the basis of modification indices may not always result in the "true" model in many realistic situations. Under no circumstances can one be *absolutely* sure that the modified model is closer to the original model (Lei & Wu, 2007). Since the original model failed to provide a good fit after being fitted, the researcher had to *modify* the original model by reducing of the number of parameters. However, this was done cautiously, without severely upsetting the model fit. The researcher did not add

parameters (as an alternative to the reduction of the number of parameters) as this was bound to make the model more susceptible to sampling errors (Lei & Wu, 2007). An addition of parameters also increases model complexity and makes it less interpretable. Also, the error terms with the highest positive estimates in each construct were correlated. This was another way of improving model fit which led to marginally acceptable results.

Owing to the model fit requirements and the drive to get a provisionally acceptable model fit, some items that had correlation coefficients below the recommended threshold of 0.5 were deleted. The 47 statements were reduced by 17 to 30 in the ultimate best fitting model. These statements were deleted owing to low standardised regression weights. Notably, a validated final model (from CFA) of consumer purchase intention for organic food in Johannesburg is presented in Figure 6.1, which is taken from the model in Appendix III.

By and large, the fit indices were found to exceed a marginally acceptable or provisionally acceptable threshold after applying certain modification indices. This may demonstrate or confirm that ultimately, the hypothesised conceptual model had reasonable fit to the collected data. As a result, the current study was able to meet the thresholds put forward by Bentler, (1990), Browne & Cudeck, (1993) and Wang et al., (2005). Therefore, all the indices in Table 5.9 suggest a plausible exemplification of the empirical data structures to the model and hence the indices fairly converged well with the observed data. Accordingly, the model was *provisionally accepted*. As soon as the reliability, validity and model fit attained the acceptable and marginally acceptable thresholds, CFA was concluded and the next step was to test the structural paths of the theorized model.

5.6.2. Path Modeling Analysis (Model Causality Testing): Testing the Structural Model

A structural model is a prototypical component that connects endogenous and exogenous variables (McDonald, 1996). This study used path modeling to approximate the causal relationships between the study variables, based on the conceptual model in Figure 3.1. Yet again, the structural coefficients in the model were predicted through the use of the MLE technique, through the use of AMOS 21 statistical software. As aforementioned, the MLE method was chosen as it was deemed to have the right asymptotic properties – i.e., low variance, unbiasness and that it is scale-free. Standardized structural coefficient estimates were employed to associate the comparative significance of exogenous variables.

5.6.2.1. Model Fit (Path Modeling)

Path modeling also requires that model fit should be assessed in advance of testing the structural paths of the hypothesised model (Lei & Wu, 2007). Model fit indices were calculated the same way as they were computed under CFA. The valuation of the overall fit of the hypothesised model sought to warrant that the model was a plausible representation of the complete set of casual interactions. In addition to the section on absolute fit indices above, these indices assessed the extent to which the overall model (measurement and structural models) forecasted the observed inter-construct correlation or covariance matrix. As a result, model fit was calculated and the findings thereof are presented in Table 5.10 below.

Table 5.10: Model Fit Summary (Path Modeling)

Model Fit Indices	Acceptable Threshold	Study Threshold	Acceptable / Unacceptable
Chi-Square Value: $\chi 2/(df)$	<3	2.725	Acceptable
Comparative Fit Index (CFI)	- > 0.900	0.910	Acceptable
Goodness of Fit Index (GFI)	> 0.900	0.885	Close Fit
Incremental Fit Index (IFI)	> 0.900	0.899	Acceptable
Normed Fit Index (NFI)	> 0.900	0.916	Acceptable
Tucker Lewis Index (TLI)	> 0.900	0.894	Acceptable
Parsimony Fit (PRATIO)	Close to 1	0.865	Acceptable
Random Measure of Standard Error Approximation (RMSEA)	< 0.08	0.067	Acceptable

Source: This Study

The results above displayed a fairly acceptable model fit. When compared with the results from the CFA model, the findings from path modeling showed that the only a one index (i.e., GFI) fell just below the minimum acceptable threshold. The remainder of the indices reached or fell above the recommended thresholds. For this reason, it can be concluded that the model fit of this study was **provisionally** acceptable and most indices fell above the suggested threshold. These findings may suggest that the previously derived conceptual model was a plausible representation of the collected data.

Just like in CFA, 7 more statements were deleted in order to eventually have the final best fitting model represented in Appendix III. These statements were deleted as a result of low correlation coefficients (i.e., < 0.5). Two variables (i.e., KL and LA) were removed altogether, as they yielded 'abnormal' estimates – correlation coefficients that distorted the

whole model. The structural model in Appendix III illustrates the final and simplified validated best-fit model. Notably, this simplified model only depicted hypotheses that were finally supported – i.e. all the remaining six hypotheses were supported.

After establishing the fact that the structural model fit analyses managed to reach a fairly acceptable thresholds, the next step was to test the structural paths of the assumed model.

5.6.2.2. Hypothesis Testing / Significance Testing

Testing model fit is one of the most important results of fitting a path model (Hoyle, 1995). After checking model fit (under path modeling), and finding a fairly acceptable fit, the next step was to test the hypotheses of the current study. Hypothesis testing is a procedure used for testing a claim about a parameter in a population, through the use of the data measured in a sample (http://www.sagepub.com/upm-data/40007_Chapter8.pdf). The attractiveness of SEM was deduced from its flexibility in specifying and testing hypotheses between both manifest and latent variables. The causal paths in SEM were assessed using statistical significance and strength, through the use of standardized path coefficients that ranged between -1 and +1. In line with Chin (1998), standardized paths must be no less than 0.20 and preferably above 0.30 so as to be considered significant for discussion. Some of the standardized paths for the current study met this recommended threshold.

Despite the fact that causal relationships are hypothesized when using SEM, causality cannot be ascertained by the findings computed by any of the techniques used (Kline, 2011). However, causality can be determined only by the soundness of the research design as well as the underlying theory (Weston & Gore Jr., 2006). A structural model was used to describe inter-relationships between the study variables. In contrast, when both measurement and structural models are considered together, the model may be referred to as a full structural or *composite* model (Jörg, Ringleand & Sinkovics, 2009). However, a composite model was not applicable to the current study.

The relationships between latent variables can be described as direct effects, covariances, or mediated (indirect) effects (Baron & Kenny, 1986). Covariances are equivalent to correlations because they are regarded as non-directional associations amongst exogenous latent variables. They are indicated graphically through the use of double-headed arrows (Arbuckle, 2005). However, because the current study did not expect any non-directional associations between the latent variables, no covariances were specified in the structural

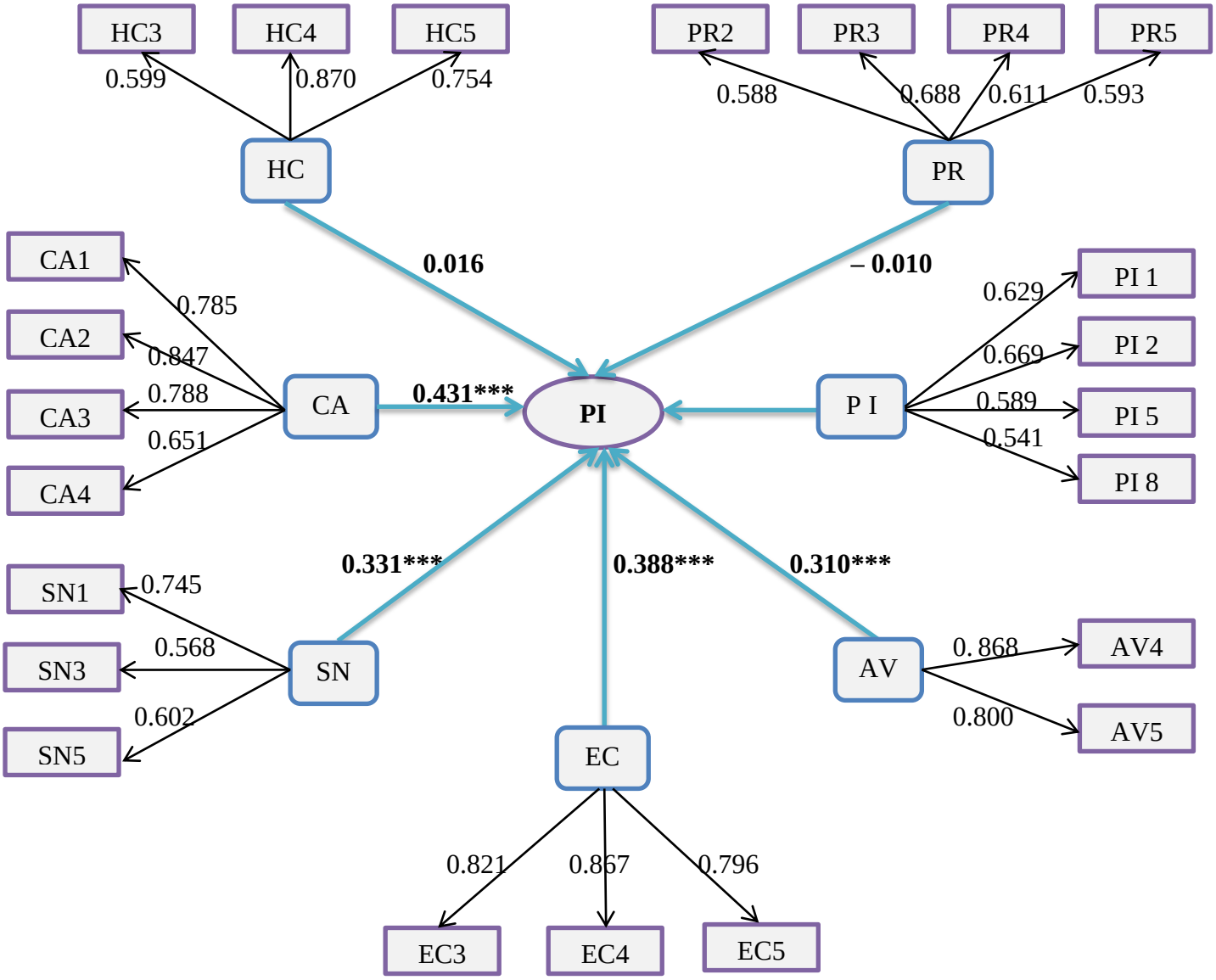
model as seen in Appendix III. Only direct effects or relationships were anticipated.

Direct effects are associations between manifest and latent constructs and these are similar to those that are found in multiple regressions and ANOVA (Weston & Gore Jr., 2006). These effects were indicated graphically through the use of single-directional arrows (e.g., between environmental concerns and purchase intention). Noteworthy, although arrows point toward directionality in SEM statistics, Baron and Kenny (1986) as well as Weston and Gore Jr. (2006) cautioned that investigators must not interpret associations between latent variables as causal, except in cases where they evaluate experimental or longitudinal data. Moreover, in line with Weston and Gore Jr. (2006), the coefficients that are generated to refer to the strength of these associations can be interpreted similarly as regression weights.

The path diagram of the structural model for the antecedents of consumer purchase intention for organic produces in Johannesburg is displayed in Appendix III. This diagram represents the causal relations as single headed arrows were used, while the latent variables were represented as ellipses. Additionally, the standardized values (ranging between 0 and 1) of the coefficients for each indicator and latent construct were also presented.

The findings from model causality testing or hypotheses verification (also called significance testing) are presented in Figure 5.3 below.

Figure 5.3: Testing the Hypotheses



*Note: CA = Consumer attitude; HC = Health Consciousness; PR = Perceived Price, AV = Perceived Availability; KL = Knowledge Levels; SN = Subjective Norm; EC = Environmental Concerns; PI = Purchase Intention; p*** < 0.01; p** < 0.05*

Figure 5.3 above shows that 4 of the studied variables yielded significant results (i.e., AV, EC, SN, CA), while two of the variables (PR and HC) only yielded insignificant results. LA and KL were excluded from further analysis as they yielded abnormal correlation coefficients. Additionally, the same results are shown in Table 5.11 below. All the 6 remaining hypotheses were supported (as displayed in Table 5.11). However, two of the hypotheses on the relationship between LA and PI as well as KL and PI were excluded from further testing.

Table 5.11: Results from Testing the Structural Model

Proposed Hypotheses	Hypothesis	Factor Loading	Rejected/Supported
PI → CA	+H1	**0.431*** **	Supported
PI → HC	+H2	**0.016**	Supported
PI → PR	–H3	**– 0.010**	Supported
PI → AV	+H4	**0.310*** **	Supported
PI → SN	+H7	**0.331*** **	Supported
PI → EC	+H8	**0.388*** **	Supported

*Note: CA = Consumer attitude; HC = Health Consciousness; PR = Perceived Price; AV = Perceived availability; KL = Knowledge Levels; SN = Subjective Norms; ***p<0.01; p**<0.05*

5.6.2.3. Hypotheses Verification

This section was dedicated to verify some of the hypotheses under study. All the hypotheses that were tested were grounded on literature and all the above, except for knowledge levels and labelling, were confirmed in this study.

(A) Consumer Attitude (X_1) – Purchase Intention (Y)

The first posited hypothesis (H1) was that there was a positive relationship between CA and PI. Essentially, positive CA toward organic food is likely to lead to a desirable PI. In line with H1, the findings indicated that CA was positively associated with PI, with a standardised estimate value of +0.431. However, this correlation was not only positive, but it was significant at p<0.01 or at 99% confidence level or simply at ***. Therefore, a positive relationship between CA and PI was supported in this study, and such a relationship was also found to be significant at 99% confidence level. Moreover, CA offered the most significant results when compared to the other significant variables – AV, SN and EC. As a result, one failed to reject H1, as sufficient evidence exists to support the claim that CA has a positive and significant (as computed) influence on PI.

(B) Health Consciousness (X_2) – Purchase Intention (Y)

The second claimed hypothesis (H2) tested the association between HC and PI. Based on foregoing studies, it was hypothesised that this relationship was positive. On the basis of the findings of the current study, support was provided for H2, as a positive relationship between these variables was established, with a standardised regression weight of +0.016. Moreover, the results do not show a significant linkage. Hence, such a finding confirms the earlier hypothesis that the relationship is just positive. On the basis of the above results, one failed to reject the hypothesis that there is a positive relationship between HC and PI. Therefore,

sufficient evidence exists to support the claim that a positive linkage exists between HC and PI, as an insignificant and yet positive relationship was found.

(C) Perceived Price (X_3) – Purchase Intention (Y)

The third and previously stated hypothesis (H3) claimed that there was a negative relationship between PR and PI. The standardised coefficient of PI for PR was found to be negative (i.e., – 0.010) but insignificant as previously hypothesised. This indicated that H3 was in line with the formerly assumed relationship. As a result, one failed to reject the hypothesis that there is a negative relationship between PR and PI. This may also imply that there is sufficient evidence to support the claim that PR has a negative effect on PI.

(D) Perceived Availability (X_4) – Purchase Intention (Y)

The fourth hypothesis (H4) posited that there was a positive relationship between AV and PI. Since a positive relationship was found (i.e., a factor loading of +0.310), this meant that H4 was also consistent with the previous prediction of the current study and hence it could not be rejected. Moreover, a significant relationship was also found at $p<0.01$. Therefore, sufficient evidence exists to support the earlier claim that there is a positive relationship between AV and PI (with p-value being significant at 0.01).

(E) Labelling (X_5) – Purchase Intention (Y)

Hypothesis 5 (H5) claimed that there was a positive relationship between LA and PI. Awkwardly, LA as a construct was eliminated from further analysis as it found to be a nuisance variable that gave correlation coefficients of above 1, when all loadings ought to be below 1.

(F) Knowledge Levels (X_6) – Purchase Intention (Y)

The sixth hypothesis (H6) posited that there was a positive relationship between KL and PI. Again, the correlation coefficients for this construct were found to be inconsistent with what was expected – i.e., the standardised estimates fell below or and some fell way above the normal acceptable range of at least 0.5 and ≤1. Accordingly, all the items measuring this variable were removed altogether.

(G) Subjective Norm (X_7) – Purchase Intention (Y)

The seventh specified hypothesis (H7) claimed that there was a positive relationship between SN and PI. In line with H7, the results of the current study indicated that SN was positively

associated with PI (i.e., had a standardised estimate of 0.331). On the other hand, this relationship was not only positive, but it was significant at $p<0.01$. Thus, a positive relationship between SN and PI was supported in this study and this linkage was also found to be significant at 99% confidence level. Consequently, one failed to reject H7, as sufficient evidence existed to support the claim that SN has a positive influence on PI (with p-value being significant at ***).

(H) Environmental Concerns (X_8) – Purchase Intention (Y)

The last assumption – hypothesis eight (H8) claimed that there was a positive relationship EC and PI. The results showed that indeed a positive relationship between EC and PI does exist, with a factor loading of +0.388. This finding supported the reasoning that an increase in awareness about the consumption effects on the environment is likely to positively affect the selection of organic food. Once more, one failed to reject the earlier hypothesis that there is a positive relationship between EC and PI. Notably, this study also found that this relationship was not only positive, but it was also significant at p = ***. For this reason, and consistent with H8, evidence existed to support the earlier claim that there is a positive relationship between EC and PI, and most importantly, this linkage was found to be the second most significant out of the six supported hypotheses.

5.7. Chapter Summary

This chapter provided a broad discussion on how the data was analysed and how the results were computed. A series of steps were followed and they started from data coding on Excel, followed by data cleansing process, and data importation to SPSS 22 (for descriptive statistics) and AMOS 21 (for SEM). Once the data was imported to the statistical softwares, the analysis process started. Consistent with McEachern and Willock's (2004)'s suggestion, the researcher found it advantageous to adopt a SEM for the current study as this tool created the capacity to simultaneously scrutinise a series of relationships. Foregoing studies (for example, Saba & Messina 2003; Tarkianien & Sundqvist 2005) demonstrated that SEM is a somewhat 'strong' technique to analyse aspects relating to consumer purchase intentions for organic food. Therefore, a two-step procedure suggested by Anderson and Gerbing (1988) was used to validate the conceptual model by means of SEM.

Inferential statistics was split into two sub-sections: CFA (for reliability, validity and model fit) and path modeling (for model fit and eventually hypothesis testing). The positive correlation coefficients between CA, HC, AV, SN and EC towards the intention to purchase organic food (0,431; 0.016; 0,310; 0,331; 0,388 respectively) and the negative one on PR (i.e., – 0.010) indicated that the previously stated hypotheses based on the conceptual model for these variables were *verified*. However, the hypotheses for KL and LA were not verified, as these variables were eliminated due to unusually high or low correlation coefficients. This study further established that consumers with positive attitudes toward organic food presented the highest intention to purchase such produces. In particular, it can be said that buyers who consider to buy organic food hold positive attitudes toward such produces, are environmentally friendly, are priced-sensitive, values the availability of organic food, and perceive referent groups as important when they shape their purchase decisions for organic food. The next chapter provides a broad discussion of the results and highlights the limitations of the current study.

CHAPTER VI

DISCUSSION OF RESULTS, LIMITATIONS

"When I can afford it, I'm very into organic food…." — Sprague Grayden

6.0. Introduction

The first portion of this chapter was allocated to the discussion of the study findings. Accordingly, this section intended to provide better meaning to the computed results from the foregoing chapter. In so doing, a holistic evaluation of the findings of the current study was provided. Results from descriptive statistics were discussed first and thereafter the findings from inferential statistics were also discussed. Based on the findings, a final best-fit model was devised as is presented in Figure 6.1 below.

6.1. Discussion of the Findings

In order to compute the findings of this study, SEM through AMOS statistical software was preferred. Previous researchers (for example, McEachern & Willock, 2004) have suggested that it may be advantageous to adopt a SEM approach for studies on the subject of consumers' motivations to buy organic food, as this is likely to make it possible for researchers to scrutinise a series of relationships simultaneously Therefore, SEM has been found to be a fairly strong technique to analyse consumer's motivations to buy organic food (Saba & Messina 2003; Tarkiainen & Sundqvist 2005). Additionally, Anderson and Gerbing (1988)'s two-step methodology was used to validate the conceptual model and through SEM, the researcher managed to quantify and test theories. As suggested by Bollen (1989), the structural model was used to specify which unobserved variables directly or indirectly affected other latent variables in a model. All latent variables in the measurement model for the current study were validated and the re-specified model had a better fit. The researcher also performed post hoc model modifications with the intention of developing better model fit and perhaps more *parsimonious* model.

The results from SEM (particularly on hypothesis testing) shredded more light on the inter-relationships between numerous forces that may shape consumers' purchase intentions for organic food in Johannesburg. Importantly, the results from study also helped in validating the explanatory ability of the TPB on consumers' behavioural intention for organically produced foodstuffs. Furthermore, the findings also offered substantial support for the robustness of the TPB in explaining intention to buy organic food. As such, this research managed to acquire better insights into the applicability of TPB in explaining issues that apply to consumers' behavioural intention. In this analysis of consumers' purchase intentions for organic food, the TPB was found to be predictive of factors influencing consumers'

purchase intentions for organic food. This finding supported Kalafatis, Pollard, East and Tsogas (1999) as well as Lodorfos and Dennis (2008)'s research findings. The present study also validated a model that predicted respondents' purchase intentions for organic food. In accordance with Ajzen's (1991) TPB, the current study established that CA, AV, SN and EC exerted a significant positive effect on PI, with CA being the most significant variable.

The next section briefly described how measurement of reliability and validity were computed both descriptively and through inferential statistics. Thereafter, a small section was assigned for the discussion of how model fit was computed. Under reliability, the Cronbach's α value for the study variables varied between 0.616 and 0.861. As a result, all the constructs surpassed the acceptable threshold of 0.6 (i.e., $0.6 \leq \alpha < 0.7$ = Acceptable). Other constructs surpassed the threshold recommended by Byrne (2006) of 0.7 (i.e., $0.7 \leq \alpha <$ 0.9 = Good). However, none of the variables reached or surpassed the 'excellent' threshold of > 0.9. Overall, the study constructs were deemed to be reliable. As descriptive statistics, let alone the Cronbach's α, is insufficient to confirm the reliability of constructs, the researcher opted for a more statistically valid way of computing reliability. Accordingly, CR values were computed and they ranged between 0.661 and 0.856. Therefore, all study constructs met the threshold suggested by Fornell and Larcker (1981) as well as Hulland (1999). At that stage, the researcher was self-assured and confirmed that the variables were indeed reliable. After passing the reliability requirements, the researcher also checked whether constructs were valid – i.e., whether or not they measured what they purported to measure (Ghauri & Gronhaug, 2002). All the items reached the recommended threshold of > 0.5 to justify a fairly acceptable level of *convergent* validity. AVE was also computed and findings showed that most of the variables met the minimum threshold of above 0.5. Others met the marginally acceptable threshold of 0.4 suggested by Fraering and Minor (2006). However, KL which was later found to be invalid (with AVE value of 0.355) was removed from further analysis as it yielded 'abnormal' estimates. Furthermore, *discriminant* validity was guaranteed owing to the fact that all correlations from the inter-construct correlation matrix did not show any problems of multicollinearity (i.e. there were no high correlation value of > 0.8 between constructs). This proved that a sense of inimitability or uniqueness did exist. Accordingly, all variables met Fraering and Minor (2006)'s recommended threshold.

Once the other variables were confirmed to be reliable and valid, except for KL, the researcher went on to check model fit. Under CFA, the model was found to be fairly acceptable as the overall model fit indices met the threshold of > 0.9 as recommended by Bentler, (1990), Browne and Cudeck, (1993) as well as Marsh et al. (1996). The $\chi 2/(df)$ was < 3 (i.e., 2.096) while RMSEA was < 0.08 (i.e., 0.064). Model fit under path modeling showed minor differences when compared with the findings from CFA. Provisionally acceptable model fit was achieved after deleting some items (though no parameters were added) in order to improve the overall fit. Model fit under path modeling showed some minor differences as the indices slightly dropped, with GFI dropping to 0.885 and TLI dropping to 0.894. Again, the researcher came up with these figures after removing more items that had low correlation coefficients in order to improve the overall fit. Moreover, the error values that had high positive correlation coefficients in each construct were correlated, in a bid to improve model fit. Ultimately, the model reached the acceptable fit thresholds and hence was **provisionally** accepted.

After the model was confirmed and reached the acceptable fit requirements, the last step was to test the structural paths of the previously hypothesised model. The following section provides more meaning to the findings from hypothesis testing.

6.2. A Critical Discussion of the Findings from Hypothesis Testing

6.2.1. Consumer Attitude – Purchase Intention

The first studied exogenous variable was the relationship between CA and PI for organic food. The TPB hypothesised that CA play a significant role in explaining intention and human behaviour. This theory postulated that the stronger the attitudes towards a specific behaviour, the stronger intention to perform such a behaviour (Ajzen, 1991). In turn, it is not surprising that if consumers hold more positive attitudes, they are more likely to develop favourable purchase intentions. This test proved that the respondents held rather positive attitudes toward organic food. Therefore, this finding corroborated the conclusion that there is a positive relationship between CA and PI for organic food. The positive linkage between CA and PI was also validated by a sizable number of studies (for example, Kalafatis et al., 1999; Robinson & Smith, 2002; Tarkiainen et al., 2005; Chen, 2007; Lodorfos & Dennis, 2008; Magistris & Gracia, 2008; Olivová, 2011) who found similar results. Furthermore, this study confirmed that this linkage was not only positive, but was also significant at $p < 0.01$. This result was found to be similar to that of Honkanen et al. (2006) as well as De Magistris and

Gracia (2008) and hence seeks to support these previous findings. Notably, the results further revealed that CA was the most significant and positive variable – with a factor loading of +0.431. Therefore, the current study established that if consumers have positive attitudes toward organic food, they would be more than willing to consider buying organic food.

6.2.2. Health Consciousness – Purchase Intention

As far as the effect of HC on consumer PI for organic food is concerned, the statistical results for this study revealed that this effect was positive. Despite this positive effect, the results further showed that the respondents placed a relatively low level of importance on HC in their intention to purchase organic produces. Compared with other variables, HC recorded the least positive effect on purchase intention for organic intention (with a factor loading of +0.016). Surprisingly, the relationship between HC and PI was found to be insignificant and this finding was contradictory with the investigations carried by many previous researchers, for example, Pomsanam et al. (2014) who placed more weightage on HC's positive and significant effect on consumer PIs for organic food (i.e., $\beta = 0.312^{***}$). Undoubtedly, the results of the current study differ from those of earlier studies, which declared that an individual's concern for health and for the environment are the two most frequently stated antecedents for organic food PIs, with the former exceeding the latter in terms of significance (Tregear et al., 1994; Wandel & Bugge, 1997; Magnusson et al., 2003). A plausible explanation for this low factor loading for HC may be the fact that health-conscious respondents in Johannesburg have the habit of depending on *medicines* as dietary supplements, for example, vitamin, in order to improve their health (Engel, 2008). Although HC had the second least influence on PI, its effect cannot be overlooked.

Since H2 was supported, as the results did not deviate from the hypothesised relationship that there is a positive relationship between HC and PI for organic food, it could be further explained that health conscious respondents in Johannesburg were expected hold positive intentions towards organic food. However, the level of HC was found to be very low to justify significantly positive PIs. Notably, it has been established that the more conscious consumers are of their health, the more positive intentions they tend have toward organic food (Olivová, 2011). Furthermore, this inference is in agreement with the conclusions made by Krystallis and Chryssohoidis (2005), Millock et al. (2004) as well as Padel and Foster (2005). However, whatever deduction made, it should be noted that currently there is no scientifically tenable evidence to support or refute assertions that organic food is healthier or

safer for one's health in comparison to inorganic food. Claims of such kind (for example, in Avery, 1998; Colborn, Dumanoski & Myers, 1996; Rogers, 2002) are not justified and inappropriate, and they remain groundless owing to the lack of scientific backing. Therefore, the organic food industry is still not immune to health scares and consumer doubts about the superiority of such produces over conventionally grown alternatives.

Comparatively, current research, as presented herein, neither supports nor refutes any views about the advantages of organic food over inorganic food, other than submitting to the fact that the effect between HC and PI is positive.

6.2.3. Perceived Price – Purchase Intention

This study hypothesised a negative relationship between these PR and PI on the account of a number of studies that have variously confirmed an inverse relationship between these variables (for example, Magnusson et al., 2001; Al-Sabbahy et al., 2004). Support for H3 was provided, as a negative relationship was found between PR and PI. The standardised coefficient or estimates of PI for PR were found to be negative but insignificant (i.e., – 0.010). This finding acts contrary to Ajzen's TPB, as the influence of *affordability* (a subcategory of behavioural control) on consumers' willingness to buy organic food was found to be insignificant. Moreover, this finding was also inconsistent with findings that showed price as a significant variable in shaping consumers' PIs for organic food (Magnusson et al., 2001; Lea & Worsley, 2005; Padel & Foster, 2005). This may raise questions on how 'behavioural control' influences Johannesburg respondents' PIs for organic food. Conversely, this finding indicated that hypothesis 3 (H3) was consistent with the earlier prediction of this study that PR exerted a negative effect on PI. A negative link between PR and PI has been supported by foregoing literature (Briz & Ward, 2009; Hughner, 2007). Furthermore, Zanoli, Naspetti (2002), Padel and Foster (2005) as well as Hughner (2007) argued that premium pricing of organic ingredients was one of the key reasons that discouraged consumers from developing positive purchase intentions for such produces. Such insights also point out to the fact that the 'affordability issue' may perhaps be a huge concern for occasional organic food consumers or prospective consumers (i.e., individuals who are yet to be convinced about the benefits of such produces).

A contrasting perspective was shared by Tarkiainen Sundqvist (2005), Michaelidou and Hassan (2008) as well as Smith and Paladino, 2009. They alerted marketers that consumers are more likely to perceive inexpensive organic food produces as low in quality and having fewer benefits. In this case, organic food may end up losing its appeal and differentiating feature amongst consumers if it is lowly priced. Consumers who are aware of the benefits of organic food together with those who have already embraced the organic lifestyle might be less likely to be discouraged by a high cost of such produces (Olivová, 2011). Therefore, provided the price premium is not too much for an average consumer, the premiumness of organic food is no insurmountable obstacle. Likewise, price premium may also transmit the message of great quality food. At the same time, based on other research findings, it can be expected that higher prices may positively influence purchase likelihoods among consumers (Zeithaml 1988; Tellis & Gaeth 1990), though this view was not supported in this study.

Based on the findings of the current study, it can be established that PR was found to have a negative effect on PI for organic food. This finding inevitably substantiated the claim that Johannesburg respondents perceived organic food as highly or unreasonably priced and the more this price goes up, the more they will develop negative PIs for such produces.

6.2.4. Perceived Availability – Purchase Intention

Availability as an *effort dimension* points toward the ease or difficulty that an individual goes through prior to acquiring a particular product (Ahmad & Juhdi, 2008). Non-availability of organic food produces may discourage consumers from developing positive purchase intentions toward organic food (Byrne et.al., 1991; Davies, 1995; Saunders, 1999; Thompson, 2000). This conventional wisdom highlighted the notion that even though the intention or motivation to purchase may be high enough, it can be impossible for it to be converted into practice as a result of non-availability (Vermeir & Verbeke, 2004). The current study hypothesised that a positive relationship exists between AV and PI. Support for this previously stated postulation was provided in this study. The findings further substantiated the fact that the effect of AV on PI was significant at $p<0.01$ (i.e., 0.310***). This finding was in line with the results from previous studies, where it was established that AV had an effect on intention to purchase organic food. For example, in an investigation conducted by Vermeir and Verbeke (2007), the researchers established that AV had a highly significant and positive influence on PI for organic or sustainable consumption. Similarly, Lodorfos and Dennis (2008), who examined consumers' PI for organic food, found that AV of organic

produces was one of the key determining factors of consumers' positive PI for organic food.

6.2.5. Labelling – Purchase Intention

The current study had claimed that there was a positive relationship between LA and PI for organic food. Unfortunately, items relating to LA were deleted owing to model fit requirements and also on the basis of their failure to meet the minimum thresholds for correlation coefficients. Most of the standardised regression weights or estimates were found to be 'abnormal' and hence they were excluded owing to their negative bearing on the overall model fit. The elimination of all the measurement items resulted in the exclusion of the variable altogether. Therefore, due to the fact that no results were obtained for this variable, it became difficult to ascertain whether or not LA had a positive effect on PI. In the literature, Thøgersen et al. (2000) established that eco-labels may be effective tools only when buyers know their appearance. In a study conducted by Olivová (2011), the findings suggested that LA had a positive effect on PI as many of consumers were capable of identifying organic labels, despite the fact that they expressed a lack of good knowledge about such labels. Other than the knowledge about organic food label, foregoing literature also highlighted that it is necessary for consumers to have *confidence* in the certification procedure (Zanasi, Venturi, Setti & Rota, 2009). Based on the results from earlier studies, it can be deduced that an organic label is not a seal that guarantees the safety of the food.

6.2.6. Knowledge Levels – Purchase Intention

The current study had hypothesised that an increase in KL was to lead to positive consumer PIs for organic food. However, owing to the fact that the standardised regression weights for the items of KL were behaving atypically, this, again, necessitated the removal of the entire construct from further analysis. Therefore, this study failed to confirm or refute the claim that there was a positive relationship between KL and PI.

6.2.7. Subjective Norm – Purchase Intention

Subjective norm theory postulates that the key referent individuals or groups tend to accept or condemn a specific behaviour (Ajzen, 1991). The TPB declared that SN was one of the most influential constructs in shaping individuals' behavioural intention (Ajzen, 1991). The applicability of SN has been criticised extensively on account of construct's failure to significantly predict behavioural intention (Armitage & Conner, 1998; Holst & Iversen,

2011). As per H7, the current study had posited that there was a positive relationship between SN and PI for organic food. Support for this hypothesis was provided from the findings of this study. It was for this reason that H7 could not be rejected in this study. Also, this linkage was found to be significant at $p<0.01$ (i.e., 0.331***). This finding set forth the fact that the backing from reference groups, such as peers, family members, and other important individuals significantly strengthens a person's intention to buy organic food. The surveyed consumers evidenced that they were more likely to be impacted by the endorsements and/or views of significant others, predominantly the folks with whom they held high regard for.

The above finding corroborated Pomsanam et al. (2014)'s conclusion on the Thai, but not Cambodian consumers, that consumers' purchase intentions are likely to be strengthened by the support and/or influence of significant others. It was also in agreement with the findings from Chen (2007), Dean et al. (2008) and Thøgersen (2007b) who also found a significant positive relationship between SN and PI. Furthermore, Johannesburg consumers seemed to exhibit traits of a *collectivist* society, as such individuals displayed a tendency to conform to the opinions of significant others owing to 'social pressure' (Hofstede, 2001). Accordingly, the individuals whom shoppers held high regard for, became more capable of actively influencing such consumers both through their views or advices, plus passively, through their personal activities (Tarkiainen & Sundqvist, 2005). Consequently, marketers ought to identify those individuals who are able to impact other consumers' purchase intentions and invest resources in them, in an attempt to promote positive consumer buying intentions for organic food.

Inversely, a Chinese study by Yang et al. (2014) rejected the claim that a positive relationship exists between SN and PI in the context of organic food – i.e., no relationship was found between the two variables. This finding supported the claim that Chinese consumers are not influenced by social pressure in order to behave as the others in their organic food choices. Stated differently, this finding meant that it was found to be unnecessary for Chinese consumers to meet important referents' expectations so as for them to hold a favourable PI towards organic food. Interestingly, Armitage and Conner (2001) alongside Bamberg and Moser (2007) also suggested that SN frequently exerted no direct influence on intention. Though these findings demonstrate a different result from the findings of the current study, this study maintained that a significant and positive relationship exists between SN and PI.

6.2.8. Environmental Concerns – Purchase Intention

With the growth of consumer concerns about the effects of farming on nature, evidence shows that the PIs for organic food have stimulated the production of organic produces. This can be attributable to the fact that such techniques are perceived to be environmentally friendly (Olivová, 2011). Nowadays individuals often consider the likely effect of their actions on the environment in advance of making a decision to engage or not to participate in a specific consumption-related behaviour (Blackwell, Miniard & Engel, 2001). Additionally, environmentally concerned consumers are also apprehensive about environmental damage (Olivová, 2011). They highly believe that environmental damage is irreversible, and they become more involved in environmental matters (through conservation and recycling activities), and ultimately they tend to hold positive purchase intentions toward organic food (Bhaskaran, Cary & Fernandez, 2006). Therefore, the growing EC have led to a thoughtful effect, particularly on consumer buying decisions, with purchase intentions for organic food mounting at a remarkable rate.

Finally, the current study sought to establish that there is a positive relationship EC and PI for organic food. The results (i.e., a factor loading of 0.388) substantiated the above, claim, as indeed a positive correlation was found between the two variables. In particular, it was also be noticed that this relationship was significant at $p<0.01$. This paramount, yet unexpected result can perhaps be explained by the fact that consumers tend to regard organic produce as less damaging to the environment in comparison with conventionally grown alternatives. This discovery further supported the widely held and plausible belief that it is possible for individuals with less knowledge about the environment to still display a strong affection to it (Dispoto, 1997; Chan & Lau, 2000). This finding was in agreement with, for example, Pomsanam et al. (2014), Ragavan and Mageh (2013) Werner and Alvensleben (2011), Sarigollu (2009), but not with Millock et al. (2004) as well as Krystallis and Chryssohoidis (2005) who found that EC influenced PIs for organic food to a lesser extent. Overall, evidence exists to support the fact that EC have remained as one of the key factors that shape consumers' PI for organic food (Wee, Zakuan, Ismail & Ishak, 2014).

In view of the above finding, it can be noted that the positive effect of EC on PI made EC to be the second strongest variable in explaining the endogenous variable of PI. This finding meant that Johannesburg consumers do exhibit stronger interests on environmental issues and their concerns eventually affect their PI for the food they consume. Moreover, the economic

progress in South Africa, particularly in Johannesburg – the country's economic hub, may have led to greater public awareness of environmental protection affairs. This makes it unsurprising to have found a positive and significant effect between EC and PI. Undoubtedly, such findings provide organic food marketers with a richer picture about the current level of environmental concern in South Africa. Moreover, the high positive correlation between the two variables also meant that both CA and EC were found to be the most significant determinants of consumer's PIs for organic food, and these variables may successively provide an important impetus for the desired behaviour.

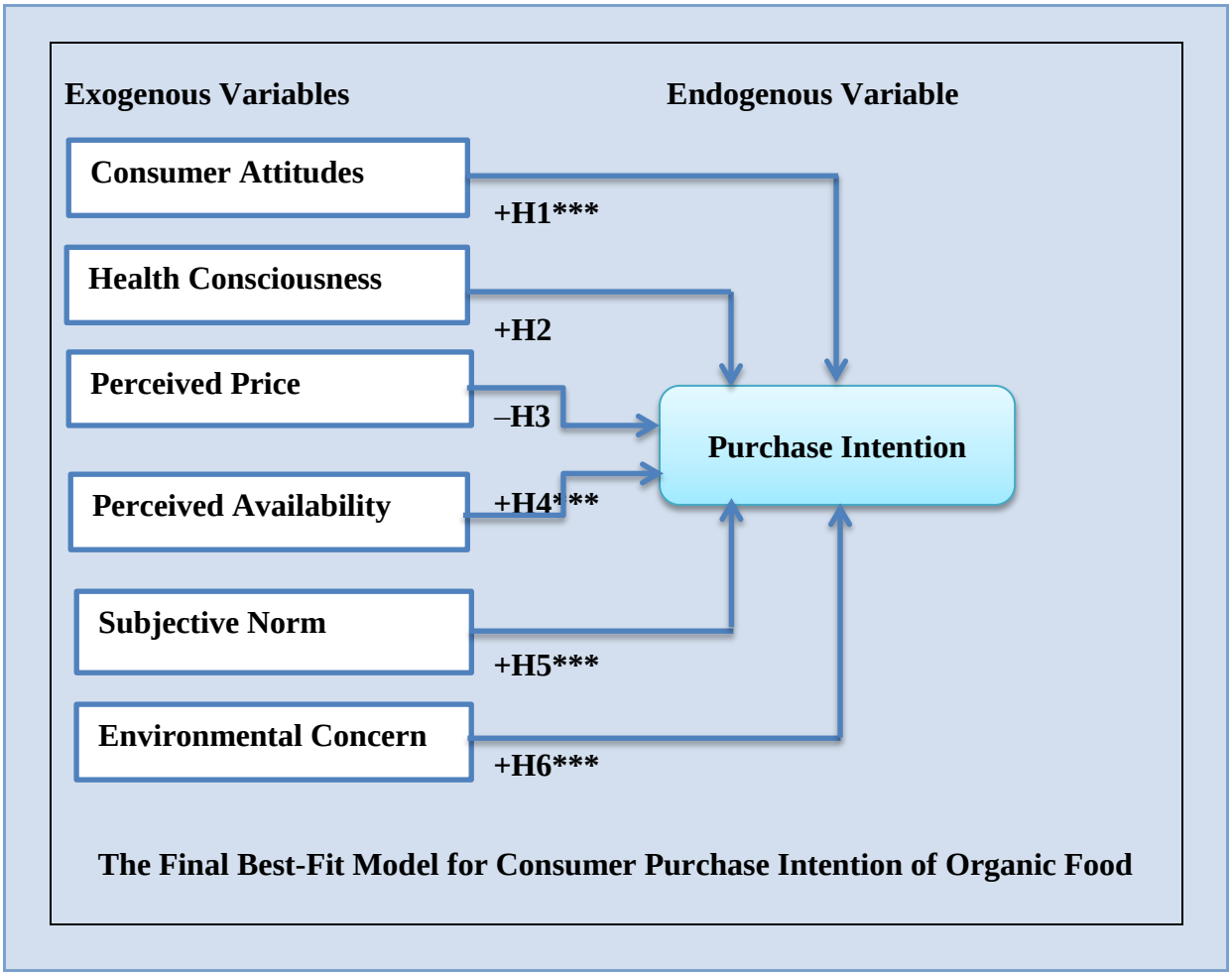
On the whole, the foregoing discussion demonstrated that CA depicted the strongest positive and significant relationship with consumers' PI for organic foodstuffs. This finding discredited the widely held view that HC is the key antecedent for organic food purchase intention as put forward by, for example, Wandel and Bugge (1997) as well as Magnusson et al. (2003). Accordingly, support is provided to arguments in favour of CA – as the most positive and significant variable in determining consumer PIs for organic food. Moreover, EC became the second top predictor of PI for organic food while HC became the least positive variable. Firm support was thus provided to the preservation the environment, owing to the mounting concerns about techniques used for inorganic food production. Therefore, the conventional wisdom that consumers are not concerned about environmental issues (e.g., matters around biodiversity, recycling, and animal rights among others) which are in line with the findings by Tellis (1987), were found to be far-fetched and thus rejected in this study. In accordance with the findings of this investigation, there is absolutely a necessity for marketers to prioritise variables such as CA and EC whenever they intend to stimulate positive PIs for organic food. These aspects will be considered further in the ensuing section on managerial implications.

Further support was provided to SN and AV, which also yielded significant and positive results. Despite the fact that HC became the least positive variable, support was provided, as the variable yielded positive results. PR was also supported as an inverse relationship between the variable and PI was established as hypothesised. However, no effect was established between LA and KL on PI, as these variables were eliminated as a result of yielding strange results. Accordingly, this confirms that 6 out of 8 hypotheses were supported. The next section provides the final-best model after considering all eliminations.

6.3. Final Best-Fit Model for the Antecedents of Consumer PI for Organic Food

The findings above were obtained through the final best-fit model, which demonstrated that SEM is an effective data-analytic technique that can be further used in addressing a number of issues linked with the purchase intention of organic produces. Antecedents with an insignificant relationship were included in the best fit model because their hypotheses were supported in this study. This model is represented in Figure 6.1 below.

Figure 6.1: The Final Best-Fit Model



Note: *** = p<0.01

The final best fit structural model presented in Figure 6.1 above reveals that the four anteceding variables, namely, CA, LA, SN and EC directly and significantly influenced Johannesburg respondents' PI for organic food. HC only positively influenced PI while PR yielded an inverse relationship with PI. The other two constructs (i.e., KL and LA) did not feature in the final best-fit model as they were eliminated from further analysis due to the fact that they yielded abnormal correlation coefficients.

Briefly stated, the final best-fit from SEM suggested that:

(i) CA significantly and positively influenced PI for organic food

(ii) HC positively influenced PI for organic food

(iii) PR negatively influenced PI for organic food

(iv) AV significantly and positively influenced PI for organic food

(v) SN significantly and positively influence PI for organic food

(vi) EC significantly and positively influenced PI for organic food

6.4. Chapter Summary

The above section provided a discussion of the results that were presented in Chapter 5 above. By and large, this discussion sought to provide meaning to the computed findings from the previous chapter. A discussion on the findings from both descriptive and inferential statistics was provided. After this discussion, and based on the findings of the current study, the final best-fit model was presented. It excluded variables like KL and LA as they yielded eccentric results. The next chapter seeks to highlight some of the recommendations, implications resulting from the above discussion on the findings of this study and also provides limitations, a conclusion as well as directions for future research endeavours.

CHAPTER VII

RECOMMENDATIONS, MANAGERIAL IMPLICATIONS CONCLUSION & FUTURE DIRECTIONS

"In an organic system you don't waste anything. We need to educate the consumer to accept a tiny blemish on an orange." — Robert Patterson

7.0. Introduction

Based on the results and the discussion on the findings of the current study, recommendations were also provided. Thereafter, the implications together with the contributions of this study were also explicated. As no study is immune from the inevitable constraints, this study also outlined some of the key limitations that pertain to it. It was only after these limitations were spelt out that a conclusion was provided together with future directions (that were mainly drawn from the limitations and/or the delimitations of this study). Finally, a research timeline was also included and it demonstrates how the research activities were undertaken, from the finalising the research proposal until the successful completion of this study.

7.1. Recommendations

Premised on the findings of the current study, this section provided some necessary suggestions in order help marketers in fostering positive consumer PIs for organic food. After a careful analysis, it became apparent that in order for retail marketers to stimulate positive consumer PIs, they ought to stimulate and nurture positive CA toward organic food while at the same time giving priority to environmental benefits of organic food (i.e., from production methods used). Equally, the effect of SN on PI was also found to be one of the significant predictors that motivate consumers to consider buying organic food. Accordingly, the suggestion is that marketers ought to identify the referent groups and use them in shaping positive consumer PIs for organically produced foodstuffs. The other suggestion is that organic food retail marketers should ensure that produces are available at convenient locations, in right quantities and at the right time. Just in time (JIT) delivery process is the most recommended supply strategy for marketers involved in the supply chain for organic food, as this technique ensures that foodstuffs are supplied when they are needed (as noted by UPS Supply Chain Solutions, 2005). It also avoids unnecessary inventory storage costs. It is also suggested that retail marketers should not emphasise more on the health benefits of organic food (e.g., when advertising these foodstuffs) as this study established that HC had an insignificant effect on consumer PIs for such produces. Notably, marketers employed by retailers can use adverts to try to alter consumers' negative perceptions that organic food is 'ridiculously' priced. By so doing, marketers would foster positive perceptions, positive WOM, through placing much emphasis on the price-quality relationship (i.e., organic food is priced at a premium, owing to its high quality in comparison with other food alternatives).

A number of the above submissions can be realised through carrying out effective campaigns aimed at fostering positive purchase intentions amongst consumers. Based on the likely effect of these campaigns on PIs, there is definitely a requisite for industry marketers to perform effective drives that promote organic food produces in the market. In addition, regular campaigns may perhaps assist in establishing a positive consumer perception for organic foodstuffs. This may alter consumers' purchase intentions and more of such foodstuffs may be demanded. Moreover, from the perspective of marketers employed by retailers, it is recommended that all marketing campaigns should endorse appropriate and fully integrated communications such that they would foster a culture of consumer-centrism, a culture of building relationships with consumers, while speaking with one voice in all touchpoints and ultimately affecting consumer intentions and/or behaviour (Shimp, 2010).

In order to effectively tackle the price premium issue, retail together with industry-based organic food marketers must not *unjustifiably* increase the price of their produces, as doing so may create a negative implication on purchase intentions and ultimately on sales. Therefore, it is recommended that organic food marketers should appropriately and fairly price their organic produces. They can only arrive at an appropriate price after doing relevant research on what constitutes a 'fair' price both from consumers' perspective and based on the costs involved. In the same context, there is also a necessity for the government to support and to increase its involvement in the growth of organic food market by offering tax exemptions and incentives to the organic food suppliers throughout the entire supply chain network. Tax exemptions and incentivizing suppliers from the entire supply chain may help in lowering the production costs, certification costs and other related costs, making it possible for farmers to pass lower prices to consumers. Additionally, the private sector must also play a role in assisting the government through increasing the usage of more organic raw materials in food production. Ultimately, this is likely to increase the quantity or variety of organic foodstuffs, which may indirectly generate more entrepreneurs and suppliers within the organic food sector. In the long run, organic produces may become cheaper, owing to more supply. Consumers may also benefit due to a wide variety of choices or organic food alternatives.

A more specific and detailed account of recommendations is provided below.

7.1.1. The Larger Context: Altering Negative and Fostering Positive Buying Intentions

The following section provides specific recommendations to concerned stakeholders on how to positively affect consumer PIs for organic food. Some of aspects may be a reiteration of the already mentioned suggestions that were discussed above.

- *Early investment in the organic food sector* – Retailers are encouraged to either financially support or make farmers convert a portion of their production to organic foodstuffs, whenever there is a necessity for an additional supply of organic produce. As it will be illustrated below, not only retailers, but entirely all supply chain partners can benefit from improved **supply chain collaboration**. A largely hybrid control structure may be helpful in creating the required level of confidence, while at the same time retaining flexibility within the supply chain. This flexibility will make it possible that different retailers may use very diverse strategies in marketing their organic produces. It may be beneficial for retailers to significantly invest in the growth of the organic food segment at an early stage. This is so because such retailers tend to become more likely to profit from the so-called first mover advantages that make it possible for them to retain a resilient position within the organic food market, for example, a move by Woolworths around 1999 – 2002 (Emerging Market Spotlight, 2011). These retailers are likely to use organic foodstuffs as a way of improving their store image and attracting additional consumers who are also likely buy other products which may be available within the store. Moreover, retailer groups that do not regard organic food as of strategic importance (i.e., those that only offer a basic assortment of such produces) may also get additional benefits from second mover strategies, for example, Pick ‘n Pay. It may be justifiable for them to limit the jeopardy of heavily investing in an evolving market that may possibly turn out to have no long term benefits. Nonetheless, when an evolving market results in a bright future, *adapters* may invest in future and then gain from the knowledge that would have been already been established within the market or industry.
- *Begin with niche markets* – Niche markets are those markets that provide the possibility of satisfying the small needs of consumers who already have a better understanding, higher awareness or exposure to organic foodstuffs and are more willing to pay a price premium for such produces. Moreover, the organic food market or sector is still regarded as a small and growing market in South Africa and there are opportunities for growth in future (Engel, 2008). This accentuates the fact that each

organic food project ought to evolve systematically in order to effectively reach the target market. Therefore, the procedure ought not to be rushed, as doing so may disturb the process. This necessitates that marketers employed by retailers must first create a strong groundwork for medium and long term market development opportunities. After the establishment of a strong footing of the niche market, organics should then evolve as mainstream produces.

- *Develop an organic marketing campaign* – Marketers employed by retailers must launch a campaign to would increase awareness levels about organic food produces amongst all the relevant stakeholders, particularly consumers, for example, through creating a social media buzz or campaign. Repeated campaigns may be helpful in reminding consumers about the availability of organic food in the market while at the same time establishing a positive consumer perception towards such produces. The objectives of such campaigns must seek to increase level of understanding of the *true* benefits of organic food so as to build a spirit that would support organic food development. This may possibly produce a proper environment for the creation of both medium and long-term objectives. Therefore, increased consumer-oriented information may perhaps help in building trust and confidence in the authenticity of the *real* benefits of organic food. Once consumers are convinced that organic food is indeed beneficial, they may start spreading positive information (or WOM) about organic food. Positive WOM is one way that retailers and other groups can use to freely advertise organic food in a way that is **more convincing** than any paid form of advertising or expensive campaign.
    - *Use several channels to promote organic food* – Owing to market failure resulting largely from information asymmetry, different channels must be utilised by marketers employed by producers in order to promote and 'propagandise' organic food.
    - *Effective promotion channels to increase consumer involvement* – Additional knowledge regarding organic food production processes may possibly help to increase consumer involvement. This is an imperative aspect as food produces are usually regarded as *low involvement* commodities. This study similarly submits that marketers employed by producers should be well-informed about the social context of consumer purchase intentions for organic food, which may also refer to both direct and indirect information detected by consumers.

- *Events as promotion tools to increase awareness about the benefits of organic food* – Raising the level of awareness in terms of the value and advantages of consuming organic food is important in developing positive purchase intentions amongst consumers. Effective awareness programmes or events, for example, regular *unflawed* advertisements, road tours, trade shows, exhibitions can be carried out to further share relevant information with target groups. These events may also be used in targeting young consumers in advance of them reaching a stage of shaping their future self-values and identity. Once consumers are convinced about the benefits of organic food at a tender age, they are more likely to carry positive purchase intentions into their future (Olivová, 2011; Nabil & Imed, 2010; Madahi & Sukati, 2012). This recommendation can be effectively applied by marketers employed by retailers, in order to foster a personal relationship with customers.

- *Research and development (R&D) as at tool for innovation* – More efforts must be placed at inventing more organic produces. The groups of concerned individuals, within the supply chain structure, particularly marketers employed by producers, are encouraged to work collaboratively in innovating new organic food produces. Therefore, a certain budget of funds must be set aside for R&D that is specific to organic food. Further research on this sector may help in finding the best ways to grow more organic foodstuffs in large quantities (though not compromising on quality) at the lowest possible cost. If more produces are available, there would be more variety, which increases consumer choices, while at the same time prices are also expected to fall to an affordable range.
    - *Technology innovation* – In order for marketers employed by retailers to be able to lessen the price of organic food (which is a huge concern as demonstrated in the findings of this study) it is suggested that the private sector should invest in new technology. The government can also provide full support for organic food producers through technology improvement to cut the risks and production costs while simultaneously lowering the price of organic food from its source.
- *Prioritise resources to important areas* – Another recommendation is that retail marketers need to prioritise their resources to valuable areas that are more likely to stimulate positive consumer PIs and at the same time foster the growth of organic

food sector. For instance, they may promote efforts that seek to protect the environment for a sustainable future. The following may also be noted in this regard:

  - *The sensitivity of the 'green' consumer* – Another significant factor not to overlook is the sensitivity of organic food consumers to the price of such produces. Discounts and promotions (i.e., a sale) on organic produces may perhaps be an imperative factor in helping to induce PI amongst price-sensitive consumers. However, this should not result in lowering the 'superiority' of organic food when compared with other food alternatives. When all these suggestions are applied effectively, the organic food industry would be more likely to continue budding into a bigger sector through the gathering of a huge customer base, while simultaneously mitigating the alleged negative effects of its alternative – conventional farming.

- *A requisite for effective supply chain management* – Production plans remain a major criterion for effective market penetration and development, particularly for relatively new produces like organics, which may necessitate a new target market. A good supply chain is indispensible in helping marketers to effectively orchestrate organic production and ultimately sales. An adjustment of logistics (i.e., having control over packaging, transport, distribution, or even the producer) may be necessary in order for marketers to be able to respond to demand. Finely tuned control and planning systems implies better supply chain, which may assist in ensuring the quality of the produces.
  - *Diversified distribution channels* – Such supply channels may be crucial in strengthening the management of organic food production. When this suggestion is applied appropriately, it is envisioned that eventually, the right understanding of organic food in addition to its scientific advancement within the local market would be engendered. Moreover, varied supply channels must also be utilised by marketers employed by producers so as to build and increase the effectiveness of the circulation of food. Ultimately, this efficiency is likely to bring down the market price of organic food, safeguard the quality of the produces and ultimately positive purchase intentions may ensue.
  - *A well-organised supply chain* – A well-ordered supply chain management may possibly assist in preventing the mix of products between organic and inorganic produces. Noteworthy, consumers' trust can be generated through their contact with the information within the supply chain management. If the

system is well-organised, this may help in facilitating the success of organic market development while at the same time providing consumers with the relevant information. Perceived value of customers may also be generated as they may be able to distinguish between the unique attributes of either organic or conventional produces. This may eventually put them in a better position to identify organic food (labels) within the shelves. Likewise, HC as a variable analysed in this study can also benefit from this phase. However, this may not be robust as HC is derived from the inner perceptions of an individual and tends to originate from personal habits, and education, among other factors.

Importantly, retailers are encouraged to influence the management of the supply chain. Through the use of their marketing mixes, retailers can possibly create the required flexibility within the supply chain, in order to match with (at times) erratic variations in demand and/or supply. Also, retailers are in a good position to give suppliers a foregone conclusion that they are more likely to be able to sell suppliers' produces, provided certain specified quality standards are fulfilled. Frequently, this certainty is vital in convincing suppliers to make the otherwise difficult and risky investments. In the same context, it is recommended that for organic food to retain its quality and always be available, in required quantities (as above mentioned), retailers ought to insist upon the JIT delivery process. Therefore, the JIT system may be used to assist in delivering the produces from the suppliers to retailers before they are wanted in order to guard against customer frustrations owing to unavailability of organic produces (Investorwords, 2011).

- *Insist on a food traceability system* – A food traceability system may be invaluable to organic food producers or processors in order for them to conform to food safety regulations as stipulated by the government and so as to meet customer assurance requirements. On the other hand, it may also offer certificates, in addition to building brand value. Therefore, a food traceability system may prove to be an effective way for enhancing consumers' perceptions on the safety of the food and as well as the quality. It has been submitted that a food traceability system may be a virtuous technique of dispelling consumers' doubt and eradicating consumers' difficulty in identifying organic food labels, thereby assisting consumers in taking a more positive approach or attitude toward organic foodstuffs (Moe, 1998). As a result, this study recommends that organic food producers or processors must consider using a

traceability system to help them in effectively dealing with food-related problems that consumers or any other stakeholders may raise against their processed foodstuffs.

- *Government support and policy (through legislation)* – A stringent certification and market entry system must be applied by the government in order to promote the organic food status while at the same time expanding the market. Furthermore, the South African government must control the management and certification system of organic food so as to overcome the market failure as a result of information asymmetry and eventually boost the level of trust in organic food amongst consumers. Additionally, measures like reinforcing the consolidation of producers, improving certification efficiency and standardising certification procedures may be done to reduce the overall cost of certification, which may have a direct positive effect on price reduction for organic food. They may also help in instituting and 'perfecting' the organic food management system across the entire country. The government must also speed up the promulgation of the organic food act, which, according to SAOSO (2015), till to-date, the draft regulation developed by DAFF has not been promulgated to regulate the organic food industry. As above-mentioned, the government may also pledge its support for the sector through:
    - *Government incentives and tax exemptions* – There is need to increase the involvement of the government in the development of organic food produces by offering tax exemptions and incentives to organic food dealers across the entire supply chain network. This has been explicated in sections above.

A major suggestion is to **replicate** the same (or have an improved) study to other areas. On a similar vein, a longitudinal research approach is recommended for such replication. Such a study may perhaps start from examining the purchase intentions of consumers at their tender age until they become mature consumers. Conceivably, the suggested study should also monitor the changes in patterns of consumer PIs as younger consumers move from their teenage ages to adulthood. Also, a diverse sample of research participants is endorsed as the ensuing recommendations from such a study are bound to offer a more accurate picture of consumer PI for organic food in South Africa.

The next section will provide the contributions of this study and/or the managerial implications of the findings of the current study.

7.2. The Contributions and/or Ramifications of this Study

Beneficiaries of the current study include organic food stakeholders, particularly in Johannesburg, and they include consumers, retailers, other wholesalers, producers and government agencies among others. Frequently, theoretical contributions and/or ramifications are a prime objective of any academic investigation, but practitioners may as well propose or develop a set of associations that are as interrelated and complex as an academically grounded theory. As a result, investigators from academia and practitioners from the organic food industry can profit from the contributions or ramifications derived from this study.

7.2.1. Contributions of this Study

Initially, the current study sought to study quantitatively determine the key antecedents that motivated Johannesburg consumers to purchase organic food. Based on this purpose, questions were derived and hypotheses were also drawn from the overall objective. By answering the research questions and confirming and/or rejecting some hypotheses, this study contributed to the knowledge that is drawn from preceding studies within the field of organic food. Consistent with the problem statement and the gap thereof, there were a few, if not any studies that have, so far, been conducted on the antecedents of consumer PIs for organic food in South Africa, particularly in Johannesburg. Therefore, this study sought to address organic food-related issues in a South African context by determining the key anteceding factors of consumer PIs for chemically-free produces. Consequently, this study tried to fill the gap that exists in the extant literature, which is, however, awash with foreign studies. By and large, this study undoubtedly contributed to the body of research within the area of organic food in Johannesburg. Correspondingly, this study also added to the growing body of knowledge that supports the TPB as a worthwhile predictive theory. Thus, this study presented the TPB as a valuable model to study of consumer PIs for organic food.

7.2.1.1. Contribution to Knowledge

The current study examined the antecedents which were deemed to be the likely influencers of consumer PIs for organic food in mainland South Africa. Moreover, a unique conceptual model was developed and tested for its fit the collected data. This distinctive conceptual model (Figure 3.1) applied or integrated Ajzen's (1991) theoretical model – namely, the TPB. The findings provided a strong empirical corroboration to verify the applicability of this theory for consumer PIs to organic food in metropolitan South Africa. Understanding South African urban consumers – in Johannesburg (the country's economic hub) was considered

fundamental to understanding the South African society. A final best-fit model (Figure 6.1) was created and this model included different predictor elements together with their inter-relationships with the outcome variable. It is assumed that this best-fit model in Figure 6.1 above would demonstrate its benefits to both academics and practitioners.

A key expectation from a good study is its contribution to knowledge with reference to the uniqueness of the research and the additional value to what is already known from previous studies. Contributions to academia can be summarised into the following (Beech, 2005):

- Corroboration of existing theories
- New juxtapositions between hitherto separate theories or areas of interests
- Advances in the application of techniques
- New evidence or the generation of corroborated insights
- Refuting or invalidating a null-hypothesis

7.2.1.2. Contribution to Practice

Another important expectancy is that a research must contribute to practice – a relevant research quality measure, particularly if the investigation is mostly in domain of applied research. This type of contribution acknowledges the need to provide relevant information to practitioners or policy makers, such that the research implications and inferences can assist them in decision making that relates to business or societal issues. As marketing research is applied research, applicability to practice necessities a context-specific and robust classification during the theory building phase. In addition, application of marketing research to practice has been a common topic in marketing management research. Hence, recently it has become essential to connect theory with practice. Accordingly, this study contributes to practice by helping marketers and policy makers to devise appropriate marketing strategies and policies respectively. Due to the fact that this study provides fresh and contemporary evidence, marketing practitioners and policy marketers in Johannesburg are bound to make informed decisions, supported by reliable information.

The findings of this study have noteworthy practical implications for marketers, policy makers and other stakeholders (though related to the contributions above) within organic food industry in Johannesburg. The following discussion details such implications. They attempt to leverage on these findings by educating both existing and potential consumers and through the promoting of trial of organic food produces.

7.2.2. Managerial or Practical Ramifications

The findings of a good research project often helps in guiding important decisions on certain practices and policies. Unquestionably, the awareness of the harmful effects of environmental pollution, degradation and climate change has created new opportunities and/or challenges for both policy makers and organic food retailers. Fortunately, Johannesburg respondents display positive environmental attitudes – i.e., they are not apathetic. In relative terms, it is surprising and yet interesting to find out that South African consumers are not really environmentally apathetic as most people could have thought.

As the main expectation from a good study was to also provide practical implications, this study accordingly the current study contributes meaningfully towards both practical and academic insights pertaining to the antecedents of consumer PIs for organic food. Accordingly, these implications are detailed below.

7.2.2.1. Marketing-Related Ramifications Implications

The apparent need for a study on consumer PIs for organic food cannot be overemphasized. Above all, the effect of HC on PI is often singularized as the most significant variable (for example, Chen, 2009; Padel & Foster, 2005). This study endeavoured to conduct research in a usually neglected, yet important segment of the organic food market. In view of this, the findings of the current study were more likely to offer valuable practical implications to marketing practitioners as detailed below. Thus, this study is not devoid of practical ramifications and those that relates to marketing practitioners are explicated below.

- *A thorough analysis of demographic and psychographic factors* – In order for marketers to be able to effectively promote organic food produces, they need to scrutinise consumers' PIs for organic food and their link with demographic and psychographic elements. This information is very important in the formation of marketing-related strategies which must be used to concentrate on consumers that exhibit positive PIs for organic food produces and are likely to display an increased preparedness to pay higher prices for such produces. Retailers of organic food can also use this information to segment their target market and can attune their marketing strategies accordingly. Marketing campaigns (e.g., campaigns that stress on the benefits of organic food) can be used to stimulate interest in organic food. Nevertheless, such campaigns should be carefully designed for the reason that currently there is no scientific evidence to support claims that organic food, for

example, is more nutritious or healthier (health benefits) than inorganic food.

- *Marketers should increase consumers' organic knowledge* – Increasing consumers' organic awareness is of paramount importance for the growth of organic food demand for the reason that organic knowledge impacts attitudes toward organic food produces that directly consumers' intention or decision to buy such produces (European Action Plan, 2014). Consumers need to be *fully* aware of the benefits of organic foodstuffs – i.e. top of the mind awareness (TOMA). This can be generated through the effective distribution of relevant information to the right target audience. Moreover, marketers, government agencies, organic farmers and other parties must make a concerted effort towards increasing the awareness of the *true* benefits of consuming organic food. Marketers must endeavour to leverage on the findings of this study by educating their target consumers (both current and prospective consumers) and by stimulating *trials* of organic food produces, e.g., samples of organic food may be given to consumers to try. Providing more information on organic food and increasing *market transparency* may as well stimulate positive purchase intentions for organic food. Therefore, there is an apparent need to educate consumers about the differences between organic, conventional and genetically-modified categories of food which are currently available the market place, in order to avoid the alleged consumer confusion.

From the results of the current study, it became evident that marketers should ensure that there is timely availability of organic food for their consumers at appropriate outlets. JIT was proposed as a supply management technique that can be used by marketers to ensure that the right quantities are available at the right time and place. Availability of organic food was deemed to lead to positive purchase intentions for organic food. Moreover, the future of the organic market hinges on its increased organic food availability and on effective supply channels which need constant 'panel-beating' to foster an effective distribution system.

Although this study established that consumers had a positive attitude toward organic food PI, it was also proven that the same consumers seem to be receptive to subjective norms, and as a result their decision may as well be influenced by significant others or the society. For this reason, marketers must identify those individuals who are likely to influence other consumers. After identifying them, they must invest resources in them (e.g., celebrity endorsers) in order to stimulate the organic food purchasing culture that may also help in quickly developing this market.

As PR was found to be inversely related to consumer PI for organic food, it also became apparent that there is a need for marketers to inform and constantly remind consumers about the value of organic food in relation to its price. Informing consumers will also help in *debunking* of demystifying any myths associated with organic food and foster consumer trust in them. As value for money can be an important attribute that shapes consumers' PIs, marketers must give emphasis to the most valuable aspects of organic food, so as to propel consumers to consider buying such produces. The price differentiator can also be used to target different consumer segments, depending on their sensitivity (i.e., price discrimination) and can also be used to preserve the niche marketing strategy for organic food.

Marketers must also be mindful of the benefits of WOM (both word-of-mouth and word-of-mouse) when seeking to foster positive consumer PIs for organic food. Consumers are more likely to trust such forms of 'advertising' or recommendations from their 'reliable' source. Therefore, encouraging other consumers (e.g., opinion leaders) to spread positive information about organic food on blogs, social media, and/or personal conversations may potentially act as noteworthy contribution to fostering positive PIs for organic food.

Finally, organic food marketers must also pay attention the growing and yet disconcerting evidence that HC are *does not* significantly impact consumer PIs for organic food. As an insignificant effect was found in this study between the above variables, this result may imply that consumers do not regard health benefits as the key aspects in shaping their PIs. This may also be due to the fact that consumers do not trust the health claims about organic food or simply – they have not derived any health-related benefits from consuming organic food. Moreover, as there is no conclusive evidence to support the claim that organic food is healthier that conventional food and marketers ought to be cautious when promoting organic food while using health-related claims. Therefore, when making organic food promotions, marketers need to have a holistic picture on the key predictors of PI.

7.2.2.2. Policy Implications

The findings of the current study also had important implications for policy makers within the organic food industry and these ramifications are presented below.

- *Improving the environmental knowledge of consumers* – To this end, the South African government has not proposed a new curriculum that seeks to educate citizens about their consumption effects on the environment. As South Africa is faced with the

dilemma of environmental protection against pollution, degradation in conjunction with the challenge of climate change, it has become indispensible for the government to carefully review the existing national curriculum at different levels of the country's educational system in order to attempt to 'environmentalise' citizens. Early education on sustainable development can help in cultivating and molding a sustainable culture within the society, making it a consumer culture to act *pro-environmentally*. The government should also find ways to inform older citizens, who are no longer at school, about the effects of their consumption on the environment. Accordingly, this study suggests that government involvement is crucial to construct policy measures that help in cultivating *sustainable* consumption behaviours amongst consumers. Therefore, the formal environmental education must be complemented by an interconnected public education that targets the general public through propaganda vehicles like television, radio, newspapers, and exhibitions among others.

- *Promote organic purchase intentions through legislation* – Apart from educating its citizens, as aforementioned, the South African government can further expedite organic buying intents by means of legislation. Given that organic food marketing is still at its infancy in South Africa (Engel, 2008), the government should work closely with the business community in order to come up with an all-encompassing eco-certification scheme while simultaneously setting regulatory practices that govern organic food advertisements and any claims made about such produces. Government agencies and industries must be conscious of the requisite to constantly legalise or control the organic food market. There is also a need to improve the inspection and accreditation of organic food logos or labelling in addition to ensuring that logos or labelling are an indication of genuine quality. Improving inspection and certification systems may help in regaining consumers' confidence and trust in organic food. In the long run, it is believed that such measures would boost consumer confidence in the advertised 'green' produces and may generate eco-friendly purchase intentions (Davis, 1993, Lawrence, 1991, Ottman, 1992). Therefore, in this respect, the state's facilitating measures are again indispensible.
- *Support from consumer associations and regulatory bodies* – Consumer associations and regulatory bodies interested in supporting the development of the organic food market should work on strengthening the receptiveness of their shared messages. They can perhaps accomplish this by considering that a number of organic purchasers

pursue different values, and eventually adapting their communication campaigns appropriately. Through the use of a differentiated approach to addressing certain concerns of every single consumer group, consumer associations or regulatory bodies may enhance the value of policies directed at stirring sustainable behavioural patterns and may in turn raise buyer confidence in the safety standards of organic agriculture.

- *Full government support and commitment* – The successful implementation of the foregoing practical measures or ramifications largely depends on the extent of the government's support and commitment to food security, food safety, environmental protection in the country, and ensuring that all transactions, advertisements are regulated. Without the necessary government support (in terms of the creation of comprehensive regulatory and guiding principles, adequate technical, information as well as infrastructural support), the enthusiasm of organic food retailers and other concerned parties is likely to be short-lived.

By and large, the above section highlighted the fact that marketers, policy makers and other concerned stakeholders must alter, for instance, their strategies and regulations based on the managerial and policy implications that were discussed in the same section. Vast evidence was provided in this study to support the notion that CA together with EC were the key antecedents, and the implications of this study also sought to highlight the importance of these variables. Related implications were derived and presented for concerned parties to take note of them. Therefore, the relevant practical and theoretical ramifications ensuing from this study were outlined for all the relevant stakeholders to be mindful of and use them to devise effective strategies, policies and to guide future researchers respectively.

7.3. Limitations of this Study

Although the study highlighted the importance of both CA and EC as the key anteceding variables for consumer PIs toward organic food, it has been limited in its scope to account for constraints on the related aspects. The limitations of any study are those characteristics that define the boundaries (or limit the scope) of the inquiry as determined by the practical exclusionary and inclusionary decisions that are made throughout the development of the study (Wanjohi, 2012). Naturally, the current study had some potential limitations that were linked to the generalisation of the findings to other contexts. Accordingly, the various study limitations may be linked to the sample population, time limitations and the limitations of results – i.e. generalisability of the study findings. Therefore, although this study makes

noteworthy ramifications and contributions to both to the academic world, marketing practice and to the comprehension of Johannesburg consumers' PIs for organic, quite a number of limitations may need further consideration when construing the findings. Overcoming such limitations can provide direction for follow-up research endeavours.

First of all, the study was conducted in one country – South Africa, and within this country, only consumers living in Johannesburg were surveyed. It is anticipated that other bigger cities like Cape Town and Durban may also have larger organic food stores and/or better supply of such produces. Moreover, within the same area, only the "Big 4" organic food retail outlets were used as the sampling frame. The exclusion of other retail outlets that offer organic food, like the Fruit & Veg Market, the Food Lover's Market may have further narrowed the scope of this study. Also, perhaps if a comparative study was done, then insightful findings regarding consumer PIs for organic food may have been obtained. Hence, ensuing research efforts should consider replicating the same study to other cities across South Africa, and utilise a broader sample to compare the findings with those of such studies. Doing so may undoubtedly contribute immensely to the body of literature on consumer PI for organic food in South Africa.

Next, the results of the current study indicated that a greater proportion of respondents were female and ranged between the ages 26 and 35 when compared with other age groups. Accordingly, the findings of this study may not be representative of the whole population of South Africa and may have been biased towards certain groups or classifications. Furthermore, more variables influencing PI for organic food (e.g., trust, taste, and actual purchase among others) may have been incorporated into the conceptual model. Conceivably, these additional constructs may have raised the explanatory power of the model.

As of late, there has been no scientific evidence that evidently and explicitly demonstrates that organic produces are scientifically healthier than the alleged inorganic food. This in itself is a deterring element in many organic food studies, and in line with the findings of this study, this element remained unaddressed. The fact that a number of consumers failed to recognise organic food logos or labels made it difficult for this study to derive meaningful findings regarding organic food labelling. This may be due to the fact that many consumers lacked the necessary knowledge about organic food. Thus, it is apparent that misperception still exists amongst many consumers in Johannesburg due to lack of proper knowledge.

Furthermore, a need for an additional elucidation or clear distinction between 'non-polluted', 'environmentally-friendly', 'genetically-modified', 'green' and 'organic' food has been identified as crucial within the Johannesburg market. Owing to this apparent confusion on the different categories, the current study may have suffered from the effects of such misperception. Admittedly, this study may have failed to obtain pure data specific to the consumers' PIs for organic food. Moreover, because of financial and time constraints, the researcher for the current study was able to only gather a limited amount of responses (i.e., 305 valid responses). Though this data satisfied the requirements for using AMOS for SEM, the total number of valid responses may have fell far below the representative threshold of all the Johannesburg consumers. Irrespective of the above limitations, this study undoubtedly contributed vastly to practice and to the existing body of knowledge on the antecedents of consumer PI for organic food in South Africa, particularly in light of Johannesburg.

7.3.1. Scope of the Study

When determining the scope of the present study, the investigator pondered on the subsequent question which was put forward by Hair et al. (2003) that:

- Is the research going to be international, national, regional, or local?

Drawing from the research objectives and on account of the limited amount of time, the current study was restricted to local confines – i.e., only Johannesburg consumers were surveyed. To further limit this scope, not all the branches of the selected retail outlets of the 'Big 4' around the city were studied. It is for this reason that this study may lack generalisability and this will be further discussed below. Despite the limited scope of this study, the researcher hopes that in future, a similar study will be extended not to regional but to national boundaries. In extreme situations, a similar a cross-sectional study may be done, e.g., by incorporating other BRICS countries like Russia, China and India among others.

7.3.2. Generalisability

Quite a lot of elements restricted the generalisability of the current study. When defining the applicability of the study findings to other parallel contexts, the investigator carefully thought about the degree of precision of the results emanating or derived from this study. As posited by Hair et al. (2003), the investigator had to answer the following question:

- Does the research call for making predictions or inferences about the defined target population, or only preliminary insights?

The fact that non-probability sampling was used also meant that the findings of this study were not generalisable to other populations. Therefore, other urban cities across South Africa, e.g., Cape Town and Durban may not find the findings from this study as applicable to their contexts. Further research may be necessary to enhance the generalisabilty of findings to different settings. Notably, owing to the above limitations, it was established that the research findings were less generalisable to other contexts. On a similar vein, it became worthwhile to note that this study offered insightful findings, and as a result became a one of the valuable bases or guidelines for future research endeavours relating to a related subject.

7.4. Conclusion

This study underscored the prominence of CA along with EC in effectively predicting consumer PIs for organic food. Premised on the identified research gap, the purpose of the present study was to quantitatively determine the key antecedents that motivate Johannesburg consumers to purchase organic food. It became evident that this study was one of the very few endeavours associated with organic food in the entire country. Notably, foregoing literature was constantly consulted and from the preceding studies, a conceptual model was formulated, with the guide of Ajzen (1991)'s TPB. The 'Big 4' food retail outlets were used as a sampling frame and from this sampling frame primary data was gathered through the use of a structured survey questionnaire from consumers that reside in Johannesburg. The collected data was later analysed descriptively through the use of SPSS 22 statistical software. By means of SEM and through AMOS statistical software, inferential statistics was analysed. In addition, the results gained from the final best-fit model demonstrated that SEM is an efficacious and valuable statistical technique and can be effectively used to address a number of issues related to consumer PIs for organic food produces.

The study constructs were found to be reliable and valid and six of the remaining proposed hypotheses were supported. The results on CA showed similarities with the findings from previous researchers. Noteworthy, consumers' PI for organic food was found to be hypothetically influenced by a large variety of other antecedents like EC, SN, AV, PR an HC. However, KL and LA were removed, owing to the fact that they yielded eccentric standardised regression weights or estimates. Furthermore, the results provided empirical evidence to validate the applicability of the TPB and support was found for the efficacy of Ajzen's TPB framework as applied to this research topic. Furthermore, it is expected that this study will provide a useful guide to all concerned stakeholders through its useful recommendations and implications for marketers, policy makers, and consumer associations among others.

7.5. Future Directions

As expected, it also became evident that this study was not immune to certain limitations, which openned up avenues for additional research. Accordingly, the identified confines of this study necessitate follow-up research studies and demands that prospective researchers ought to be aware of them so as to increase the generalisability of the findings. Consequently, forthcoming studies should address the limitations both from foregoing studies and test comprehensive models of consumer PI for organic food while at the same time addressing the limitations of the current study. For this reason, the limitations of this study provide fertile areas for future research endeavours.

Extending the present study to other settings or cities within South Africa (regional differences), may possibly heighten the likelihood of getting improved conclusions, and while using this study as a valuable guideline. As Grunert and Juhl (1995) recommended, impending research studies must explore diverse samples within countries to establish whether the theories hold for all groups of consumers. Profoundly, in order for upcoming research endeavours on consumer PI for organic food to be applied to other contexts, researchers must increase the repertoire of such studies (or sample size) in order to ultimately obtain a balanced view from consumers in different contexts and backgrounds. A comparison between urban versus rural consumers may also be valuable as differences in PIs or behaviour may exist between individuals residing in urban and those in rural areas. Therefore, additional research is indispensible, particularly when using other methods which were not used in this study, (i.e., qualitative methods) and other populations (i.e., consumers from other (rural) areas across the country) in an attempt to confirm or reject the results of the present study. Qualitative research which, specially, studies the multidimensional interaction of varied individuals, social and situational characteristics, may possibly be of great importance to upcoming research endeavours.

Additionally, a replication of this study (with supplementary variables like trust, taste, expectations and the *actual* purchasing behaviour) must be considered. The noted potential variables may be a noteworthy future research direction. Therefore, forthcoming research efforts must focus on other antecedents and their likely effect on consumer PI for organic food. By and large, this may greatly enhance the generalisability of the findings, which the researcher admitted was lacking in this research.

As organic food has only been recently introduced in South Africa, and is mostly available in hypermarkets within the larger cities around the country, the level of awareness amongst typical consumers is fairly low. As South Africa's economic growth remains *unabated*, upcoming studies in this area focus on creating more knowledge, that would result in many consumers becoming 'more aware' about organic food. It would be also interesting for upcoming research efforts to shed more light on how to increase *consumer involvement* towards organic food. Similarly, there is, so far, little research attention on consumer adoption process for organic food, despite the fact that adoption may mean consumer loyalty, which can be used to forecast future demand. In connection with point, the researcher believes that it would be exciting for future research to put more emphasis on these aspects as getting more discernment herein may be very valuable and relevant for a number of concerned stakeholders.

In future, a longitudinal research is recommended, as it is expected that it will have more explanatory power when determining how the variables under study are linked over time. This is a vital future direction as further studies should draw a parallel between PIs of young consumers and mature consumers (i.e., start at a younger age – when consumers move from their teenage years until they become matured). This area appears to have limited research as a number of researchers have a tendency to deliberately avoid it. Precisely, repetitive assessments of organic use, costs (difficulties or effects), and consumer successive behaviour may perhaps provide an improved way of modeling the correlations between the variables under study. In this respect, a daily diary methodology possibly will be advantageous when trying to further understand consumer PI and buying behaviour of organic food. Furthermore, prospective studies must also assess both positive and negative concerns of consumers' PIs for organic food so as to get a *balanced* viewpoint.

Another noteworthy future of research direction includes reviewing the cross-cultural comparison of organic food buying behaviour. The data can be gathered in South Africa and other developing markets (like India, China, Russia, and Brazil) in addition to the industrialized countries (like Germany, USA and the Great Britain). It would be interesting to find out more about the similarities and/or differences between those consumers on aspects that shape their PIs for organic food. Such a study may elicit key factors that put forth the strongest effect on consumer PI and/or behaviour with reference to organic food.

Everything considered, it seems as if future studies must incorporate a more *multifaceted* research design strategy and also integrate other notable variables in order to comprehensively assess the antecedents of consumer PI, while simultaneously taking into account other aspects that explicitly ask respondents about their usage or PIs for organic food. Therefore, the recommended future research efforts stand to enormously contribute to new and up-to-date information on the antecedents of consumer PI for organic food and also provide fresh insights to the extant body of knowledge, within the marketing discipline.

Table 7.1: Research Timeline

	Date	Date	Date	Date	Date	Date	Date	Date
Finalise Research Proposal	21/07/14							
Obtain Ethics Approval		25/09/14						
Data Collection			30/09/14 To 02/12/14					
Data Coding				03/12/14 To 09/12/14				
Data Analysis					10/12/14 To 08/01/15			
Write a Report						10/01/15 To 01/02/15		
Finalise the Report							2/02/15 To 25/02/15	
Submission								**27/02/15**

"The world has genetically modified opinions, but mine are organic. Taste them and you will see." **—** *Jarod Kintz*

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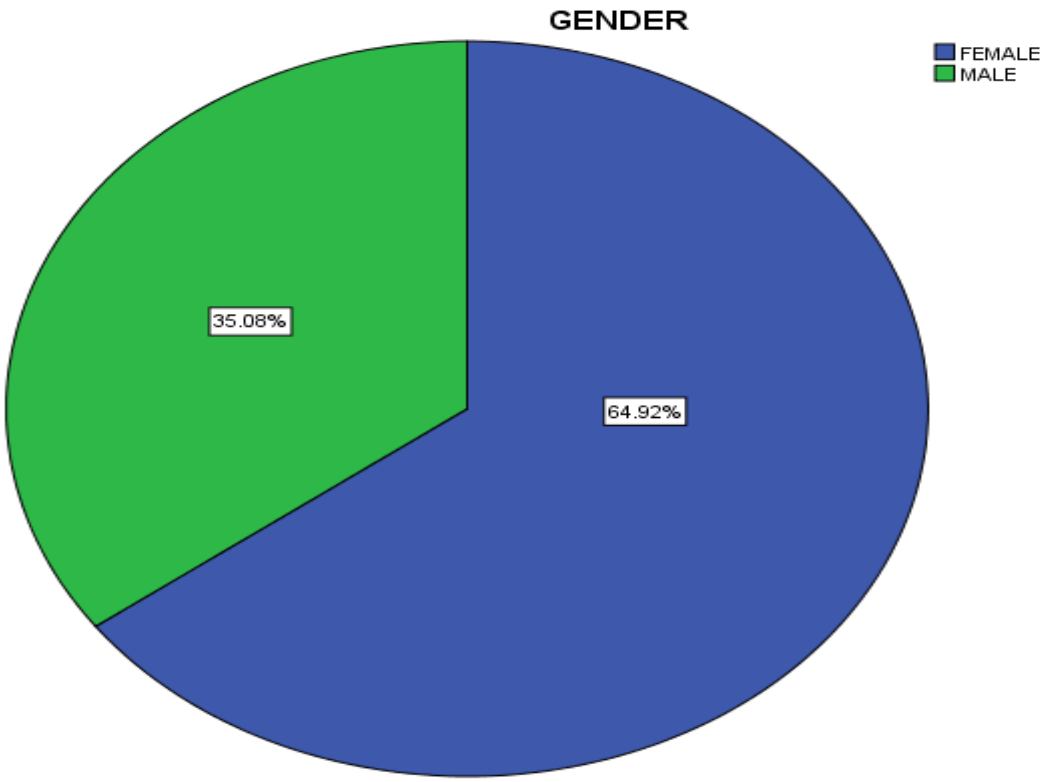
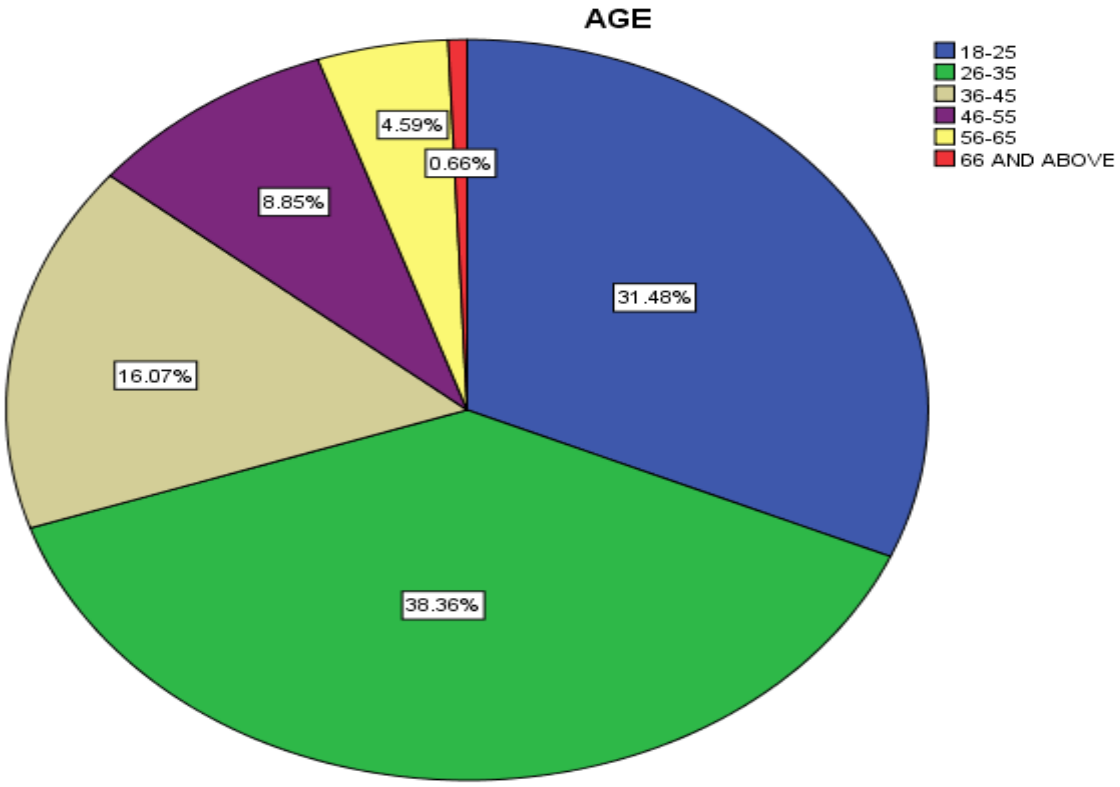
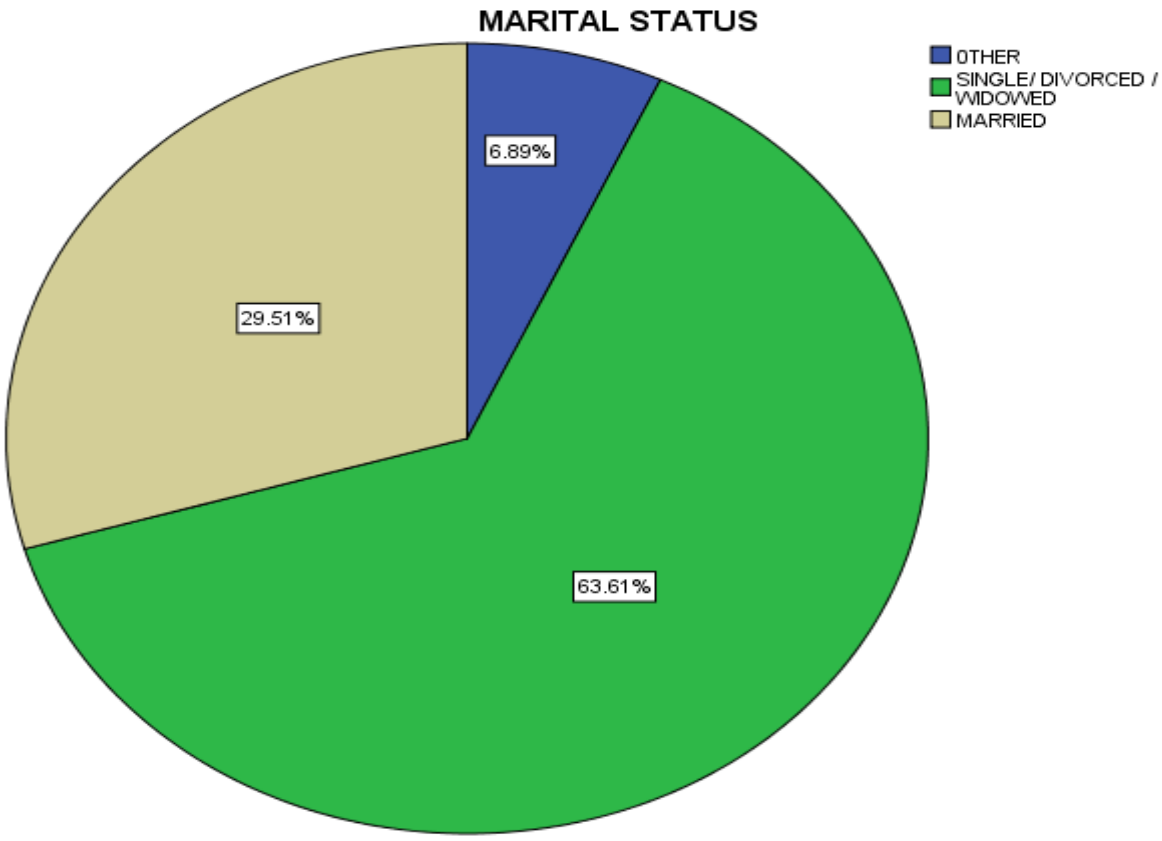
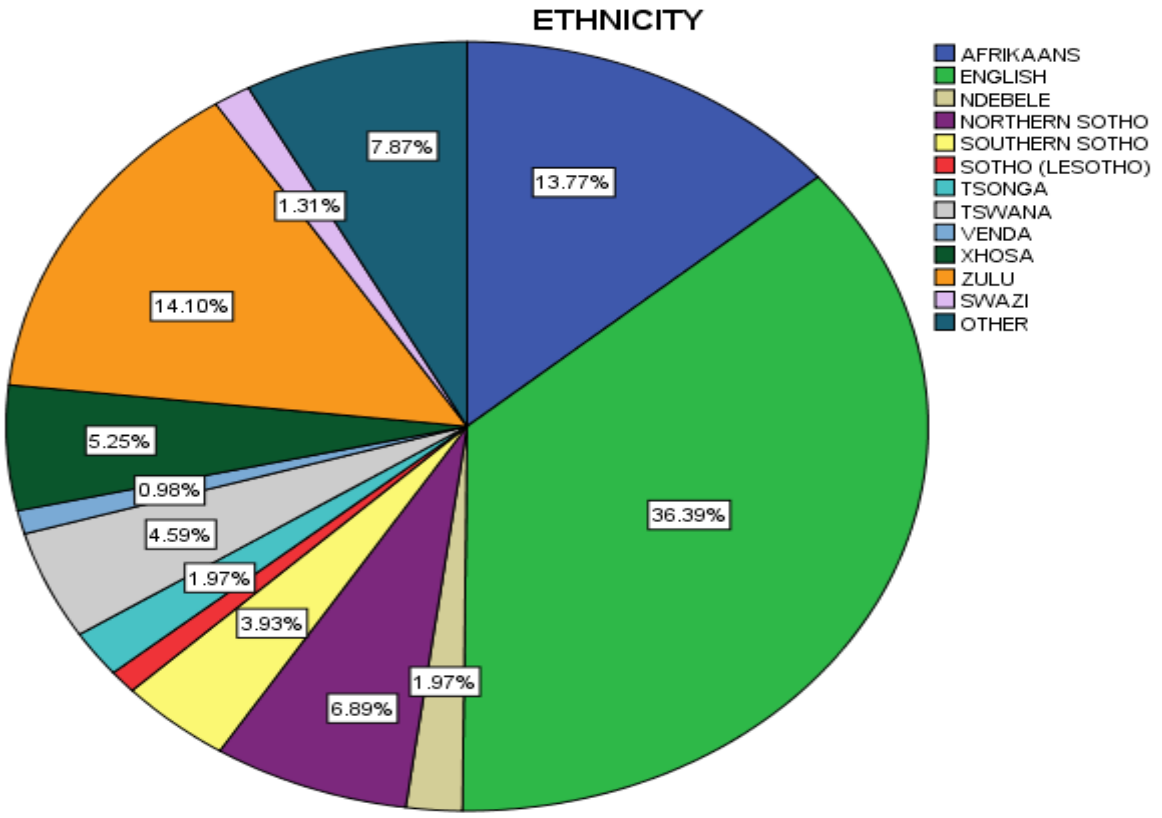
APPENDICES

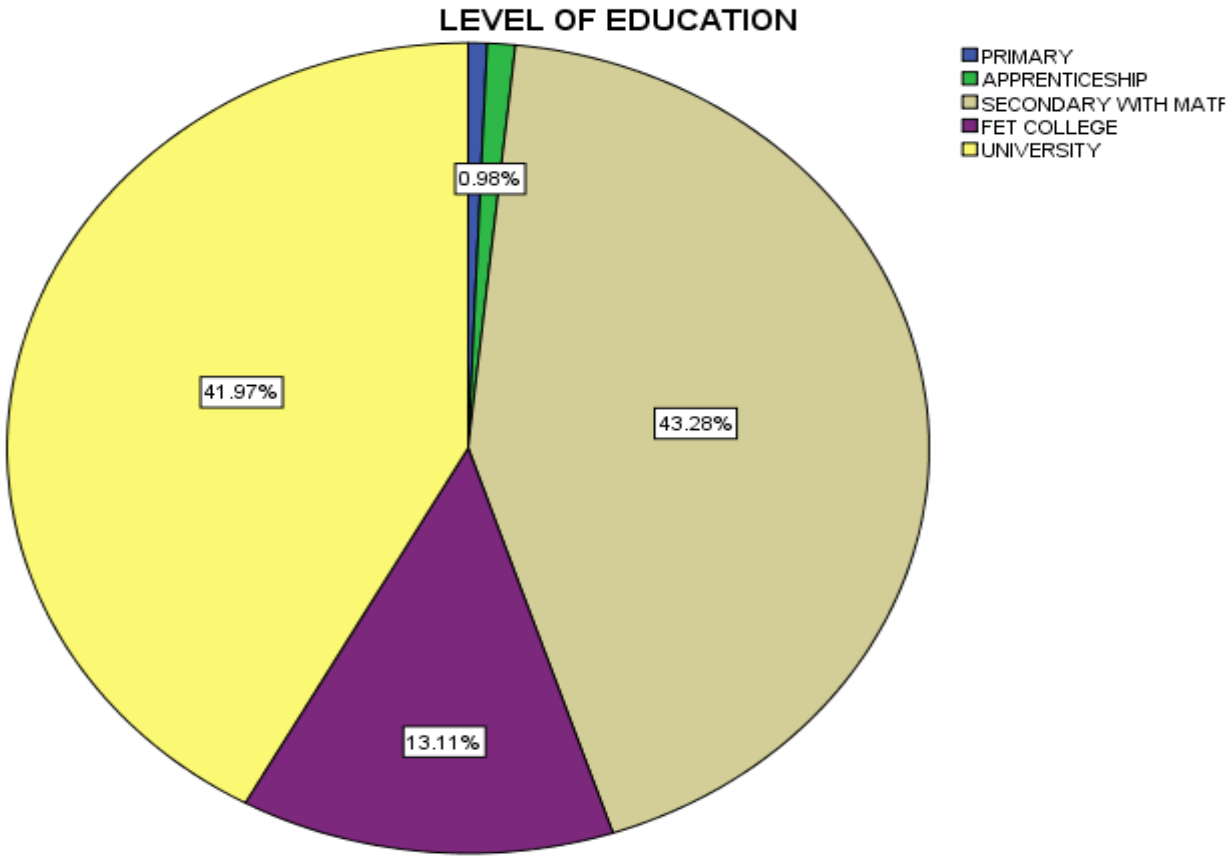
APPENDIX I






MARITAL STATUS
OTHER
SINGLE/ DIVORCED / WIDOWED
MARRIED
6.89%
29.51%
63.61%


ETHNICITY
AFRIKAANS
ENGLISH
NDEBELE
NORTHERN SOTHO
SOUTHERN SOTHO
SOTHO (LESOTHO)
TSONGA
TSWANA
VENDA
XHOSA
ZULU
SWAZI
OTHER
7.87%
13.77%
1.31%
14.10%
5.25%
0.98%
36.39%
4.59%
1.97%
3.93%
1.97%
6.89%


LEVEL OF EDUCATION
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APPRENTICESHIP
SECONDARY WITH MATF
FET COLLEGE
UNIVERSITY
0.98%
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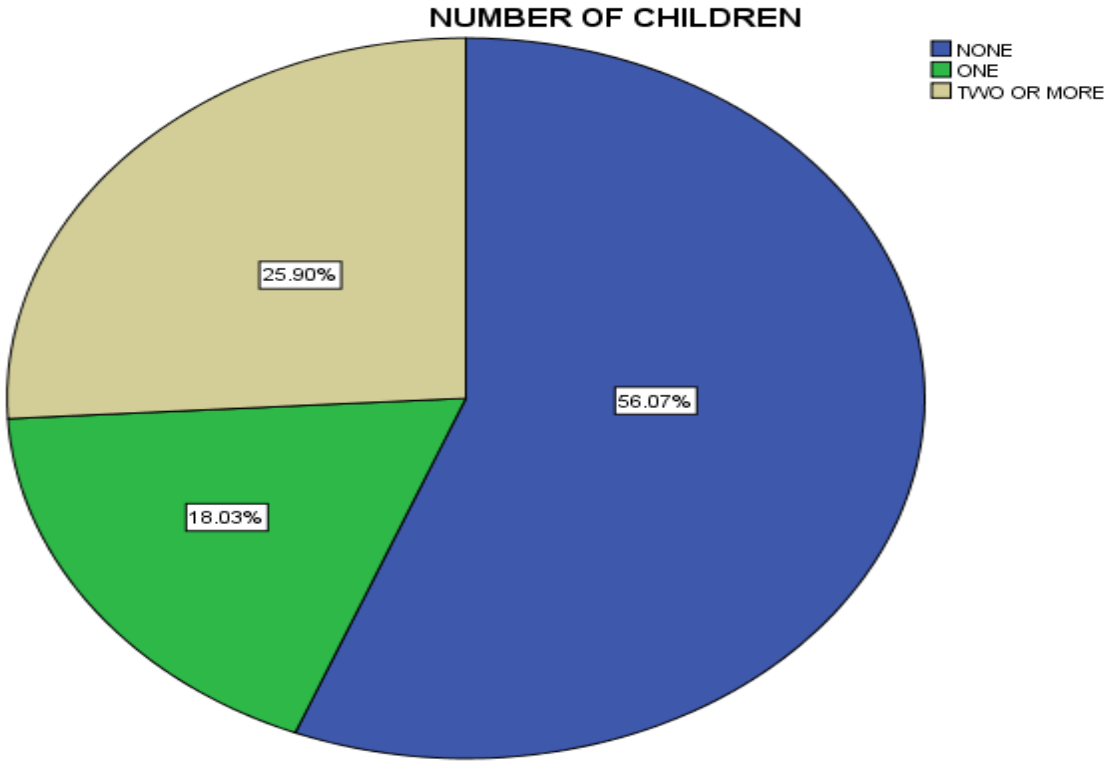
13.11%
41.97%


NUMBER OF CHILDREN
NONE
ONE
TWO OR MORE
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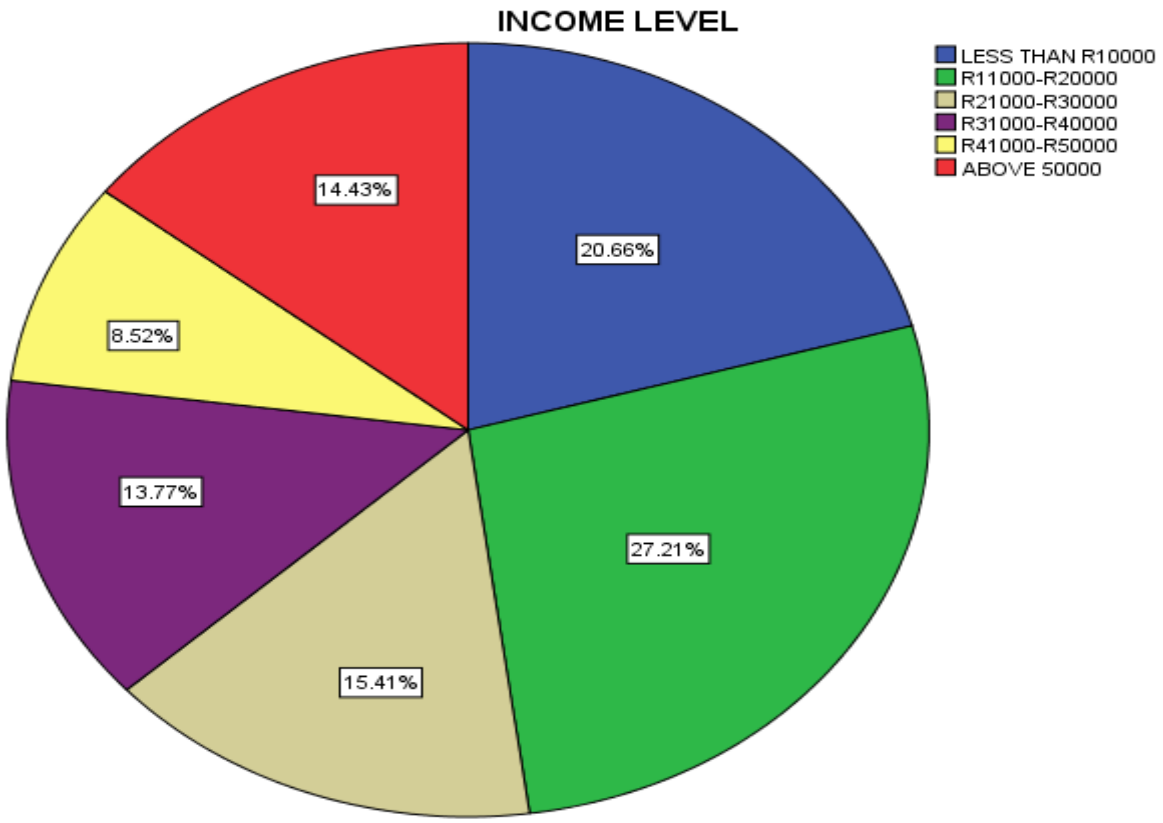
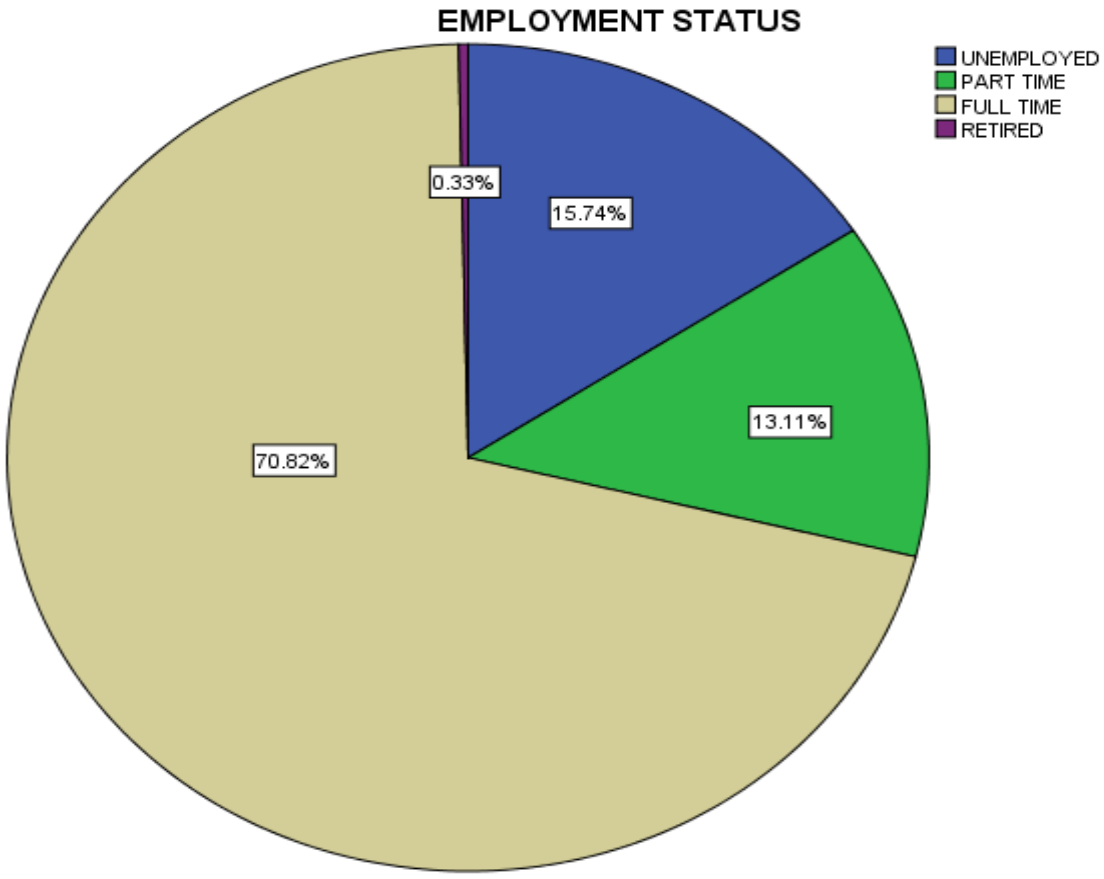
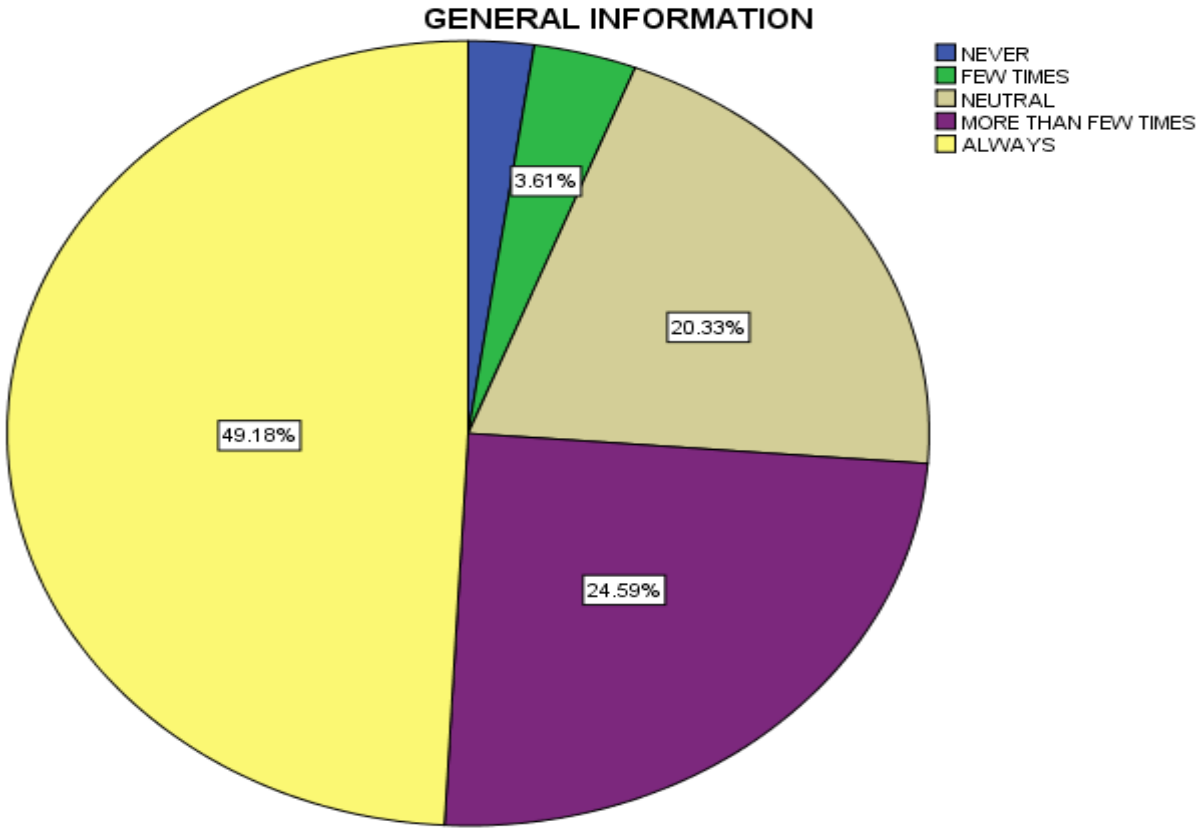
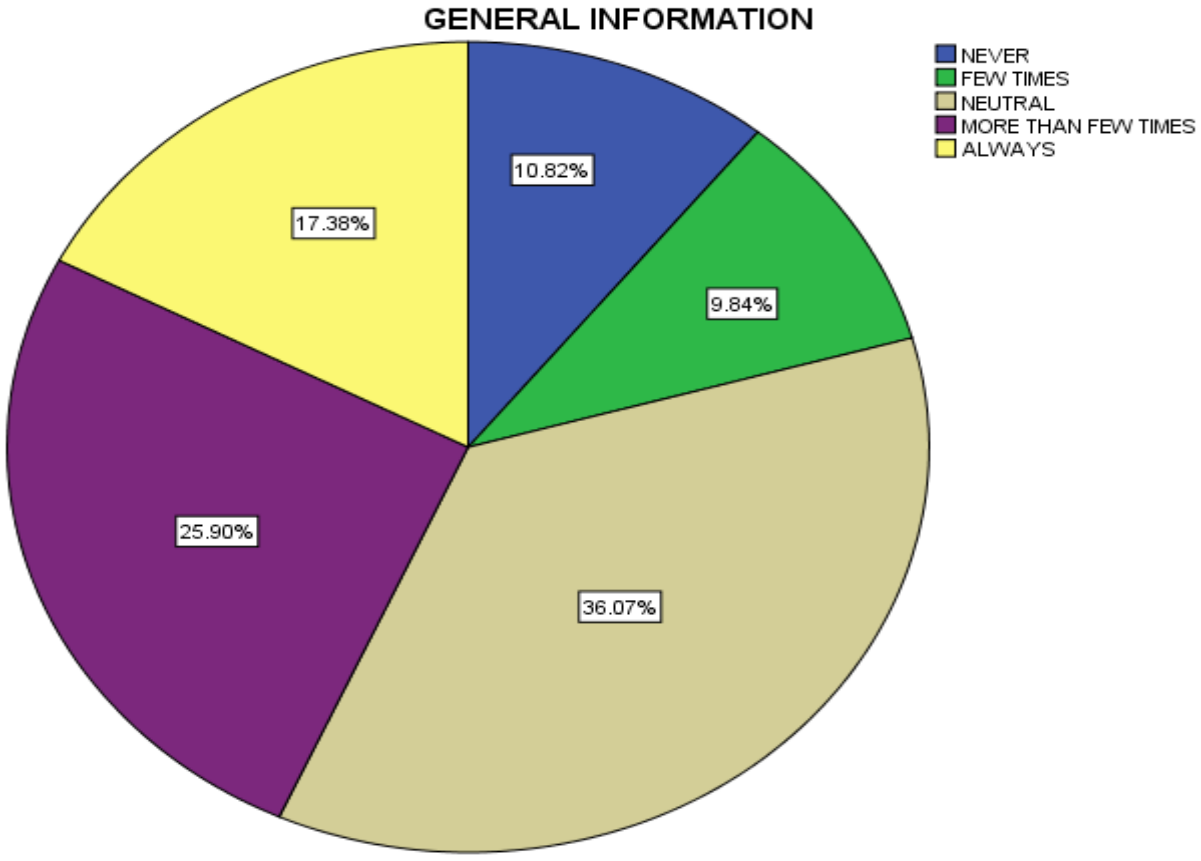
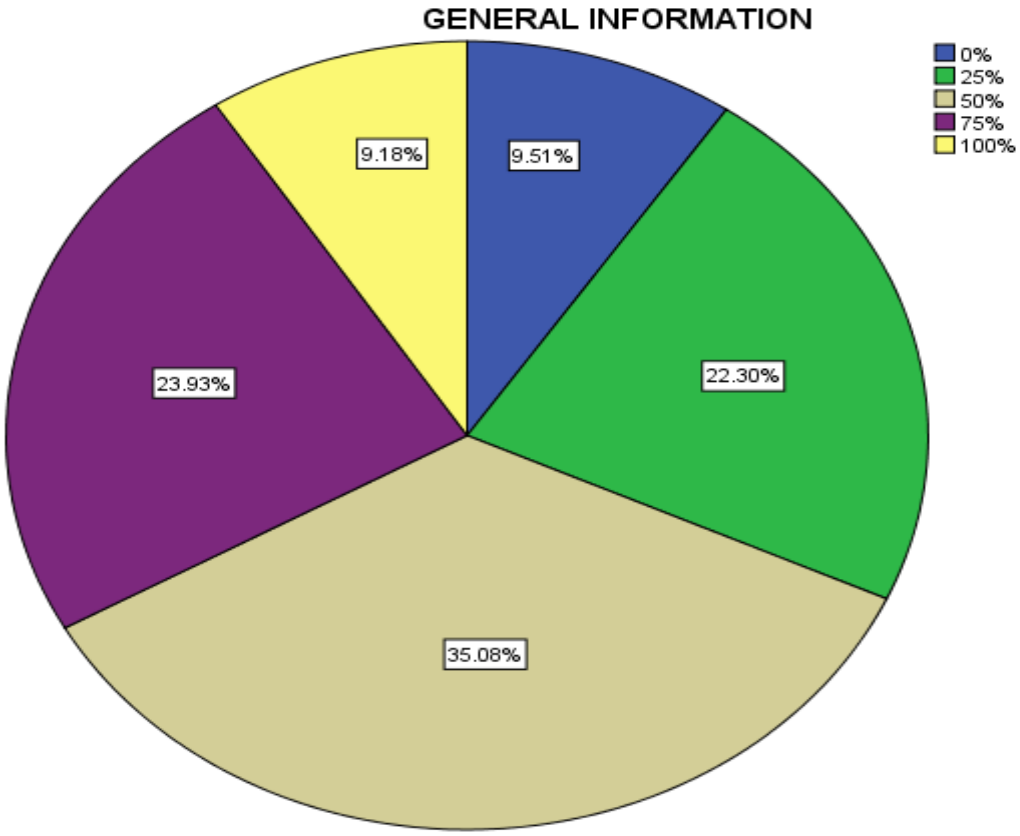
18.03%
25.90%

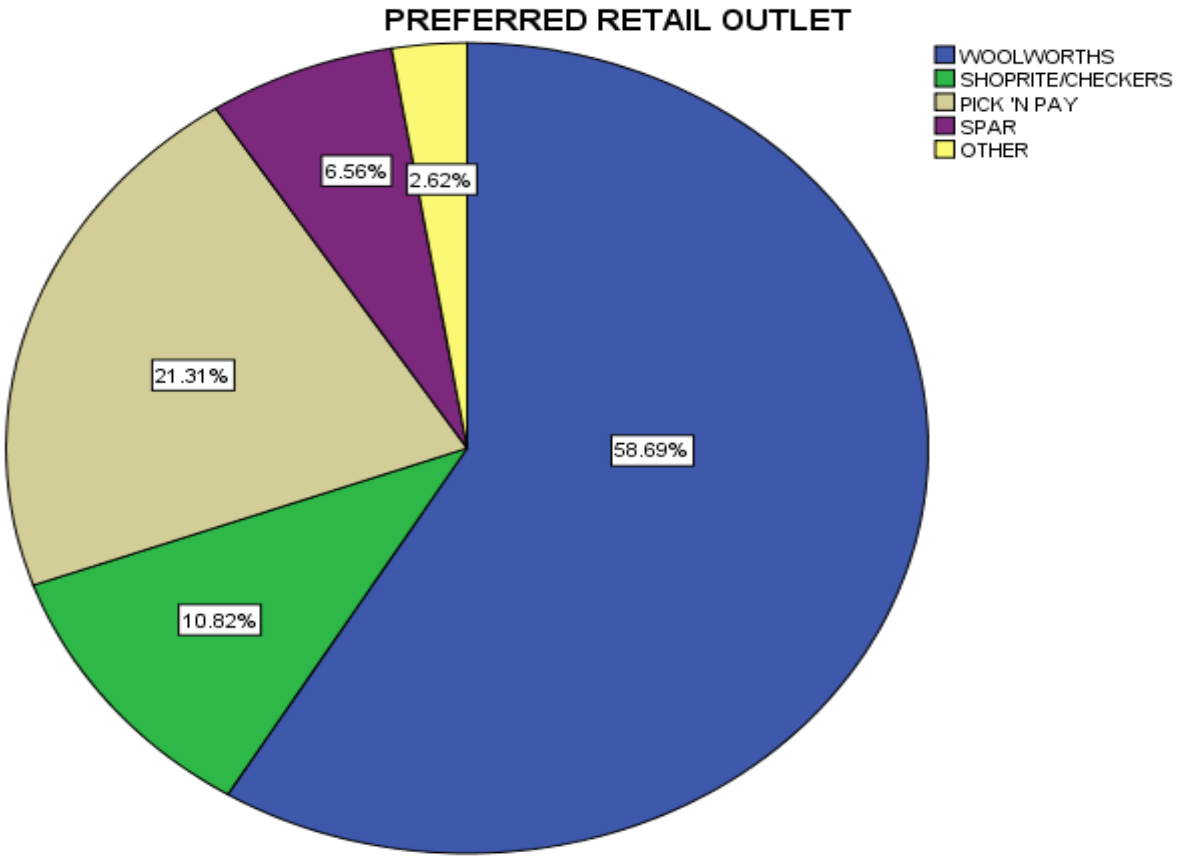

INCOME LEVEL
LESS THAN R10000
R11000-R20000
R21000-R30000
R31000-R40000
R41000-R50000
ABOVE 50000
20.66%
27.21%
15.41%
13.77%
8.52%
14.43%


EMPLOYMENT STATUS
UNEMPLOYED
PART TIME
FULL TIME
RETIRED
15.74%
13.11%
70.82%
0.33%


GENERAL INFORMATION
NEVER
FEW TIMES
NEUTRAL
MORE THAN FEW TIMES
ALWAYS
3.61%
20.33%
49.18%
24.59%


GENERAL INFORMATION
NEVER
FEW TIMES
NEUTRAL
MORE THAN FEW TIMES
ALWAYS
10.82%
17.38%
9.84%
25.90%
36.07%


GENERAL INFORMATION
0%
25%
50%
75%
100%
9.51%
22.30%
35.08%
23.93%
9.18%


PREFERRED RETAIL OUTLET
WOOLWORTHS
SHOPRITE/CHECKERS
PICK 'N PAY
SPAR
OTHER
58.69%
10.82%
21.31%
6.56%
2.62%

APPENDIX II: ACTUAL CALCULATIONS FOR CR & AVE

Composite Reliability Calculations

Formula Used: CRη=(Σλyi)2/[(Σλyi)2+(Σεi)]

Consumer Attitudes

$\Sigma\lambda yi^2 = (0.779 + 0.842 + 0.790 + 0.659)^2 = 9.5481$

$\Sigma\varepsilon_i = [(0.779)^2 + (0.842)^2 + (0.790)^2 + (0.659)^2] = 2.374186$

CR = 9.5481/(9.5481 + 2.374186)

= **0.801**

Health Consciousness

$\Sigma\lambda yi^2 = (0.667 + 0.822 + 0.747)^2 = 4.999696$

$\Sigma\varepsilon_i = [(0.667)^2 + (0.822)^2 + (0.747)^2] = 1.678582$

CR = 4.999696/(4.999696 + 1.678582)

= **0.749**

Perceived Price

$\Sigma\lambda yi^2 = (0.527 + 0.640 + 0.594 + 0.693)^2 = 6.022116$

$\Sigma\varepsilon_i = [(0.527)^2 + (0.640)^2 + (0.594)^2 + (0.693)^2] = 1.520414$

CR = 6.022116/(6.022116 + 1.520414)

= **0.798**

Availability

$\Sigma\lambda yi^2 = (0.820 + 0.847)^2 = 2.778889$

$\Sigma\varepsilon_i = [(0.820)^2 + (0.847)^2] = 1.389809$

CR = 2.778889/(2.778889 + 1.389809)

= **0.667**

Labelling

$\Sigma\lambda yi^2 = (0.748 + 0.547)^2 = 1.677025$

$\Sigma\varepsilon_i = [(0.748)^2 + (0.547)^2] = 0.858713$

CR = 1.677025/(1.677025 + 0.858713)

= **0.661**

Knowledge Levels

$\Sigma\lambda yi^2 = (0.566 + 0.614 + 0.607)^2 = 3.193369$

$\Sigma\varepsilon_i = [(0.566)^2 + (0.614)^2 + (0.607)^2] = 1.065801$

CR = 3.193369/(3.193369 + 1.065801)

= **0.750**

Subjective Norms

$\Sigma\lambda yi^2 = (0.657 + 0.546 + 0.675)^2 = 3.526884$

$\Sigma\varepsilon_i = [(0.657)^2 + (0.546)^2 + (0.675)^2] = 1.18539$

CR = 3.526884/(3.526884 + 1.18539)

= **0.748**

Environmental Concerns

$\Sigma\lambda yi^2 = (0.801 + 0.889 + 0.783)^2 = 6.115729$

$\Sigma\varepsilon_i = [(0.801)^2 + (0.889)^2 + (0.783)^2] = 2.045011$

CR = 6.115729/(6.115729 + 2.045011)

= **0.749**

Purchase Intentions

$\Sigma\lambda yi^2 = (0.646 + 0.718 + 0.530 + 0.694 + 0.584 + 0.657)^2 = 14.661241$

$\Sigma\varepsilon_i = [(0.646)^2 + (0.718)^2 + (0.530)^2 + (0.694)^2 + (0.584)^2 + (0.657)^2] = 2.468081$

CR = 14.661241/(14.661241+ 2.468081)

= **0.856**

Average Variance Extracted Calculations

Formula Used: $V\eta=\Sigma\lambda yi^2/(\Sigma\lambda y_i^2+\Sigma\varepsilon i)$

Consumer Attitudes

$\Sigma\lambda yi^2$ **= [**$0.779^2 + 0.842^2 + 0.790^2 + 0.659^2] = 2.374186$

$\Sigma\varepsilon_i$ **=** $[(1-0.779^2) + (1-0.842^2) + (1-0.790^2) + (1-0.659^2)] = 1.176376$

AVE = 2.374186/(2.374186+ 1.176376)

= **0.669**

Health Consciousness

$\Sigma\lambda yi^2 = [0.667^2 + 0.822^2 + 0.747^2] = 1.678582$

$\Sigma\varepsilon_i = [(1-0.667^2) + (1-0.822^2) + (1-0.747^2)] = 1.321418$

AVE = 2.658744/(2.658744 + 1.341256)

= **0.560**

Perceived Price

$\Sigma\lambda yi^2 = [0.527^2 + 0.640^2 + 0.594^2 + 0.693^2] = 1.520416$

$\Sigma\varepsilon_i = [(1-0.527^2) + (1-0.640^2) + (1-0.594^2) + (1-0.693^2) = 2.0479586$

AVE = 1.520416/(1.520416+ 2.479586)

= **0.426**

Availability

$\Sigma\lambda yi^2 = [0.820^2 + 0.847^2] = 1.389809$

$\Sigma\varepsilon_i = [(1-0.820^2) + (1-0.847^2)] = 0.610191$

AVE = 1.389809/(1.389809+ 0.610191)

= **0.695**

Labelling

$\Sigma\lambda yi^2 = [0.748^2 + 0.547^2] = 0.858713$

$\Sigma\varepsilon_i = [(1-0.748^2) + (1-0.547^2)] = 1.141287$

AVE = 0.858713/(0.858713+ 1.141287)

= **0.429**

Knowledge Levels

$\Sigma\lambda yi^2 = [0.566^2 + 0.614^2 + 0.607^2] = 1.065801$

$\Sigma\varepsilon_i = [(1-0.566^2) + (1-0.614^2) + (1-0.607^2)] = 1.934199$

AVE = 1.065801/(1.065801 + 1.934199)

= **0.355**

Subjective Norms

$\Sigma\lambda yi^2 = [0.657^2 + 0.546^2 + 0.675^2] = 1.18539$

$\Sigma\varepsilon_i = [(1-0.657^2) + (1-0.546^2) + (1-0.675^2)] = 1.81461$

AVE = 1.18539/(1.18539 + 1.81461)

= **0.40**

Environmental Concerns

$\Sigma\lambda yi^2$ **= [**$0.801^2 + 0.889^2 + 0.783^2$] = 2.045011

$\Sigma\varepsilon_i$ **=** $[(1-0.801^2) + (1-0.889^2) + (1-0.783^2)]$ = 0.954989

AVE = 2.045011/(2.045011 + 0.954989)

= **0.682**

Purchase Intention

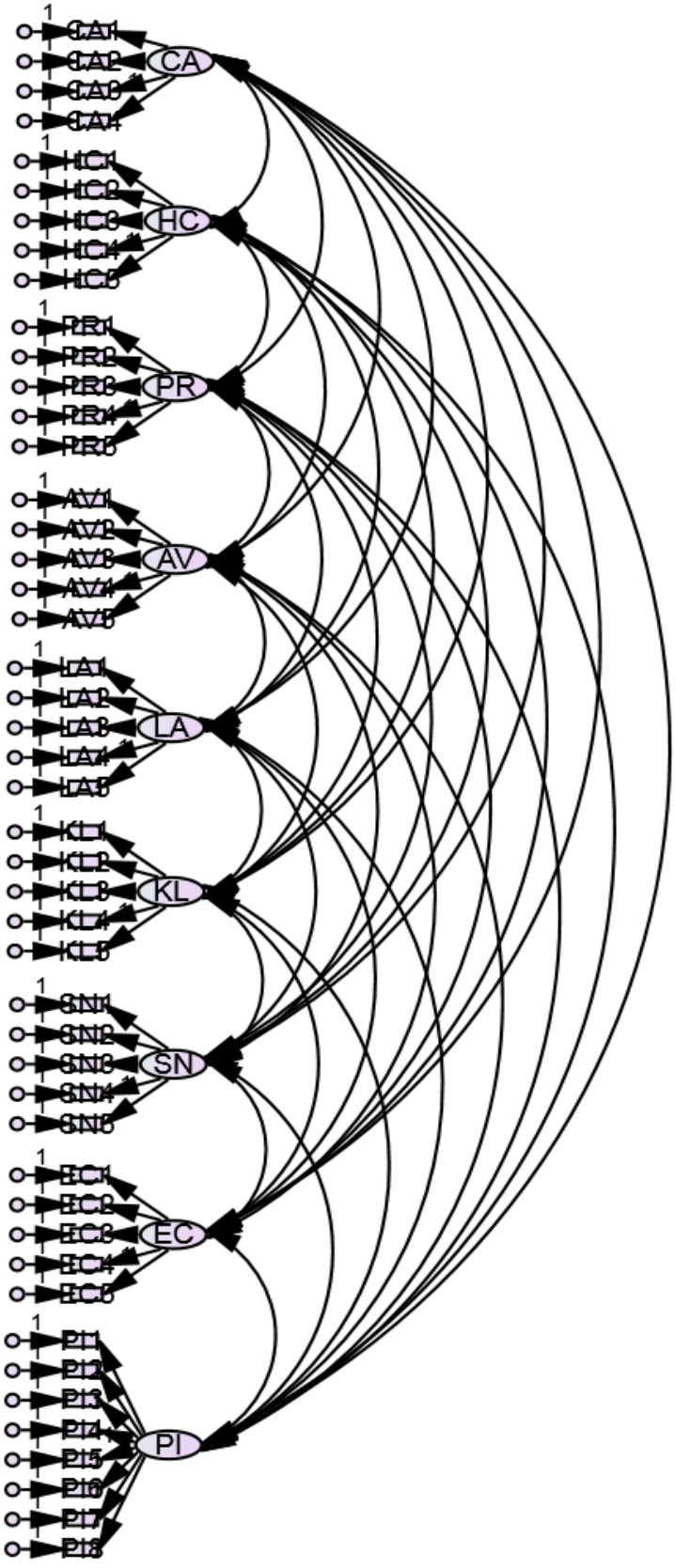
$\Sigma\lambda yi^2$ **= [**$0.646^2 + 0.718^2 + 0.530^2 + 0.694^2 + 0.584^2 + 0.657^2$] = 2.468081

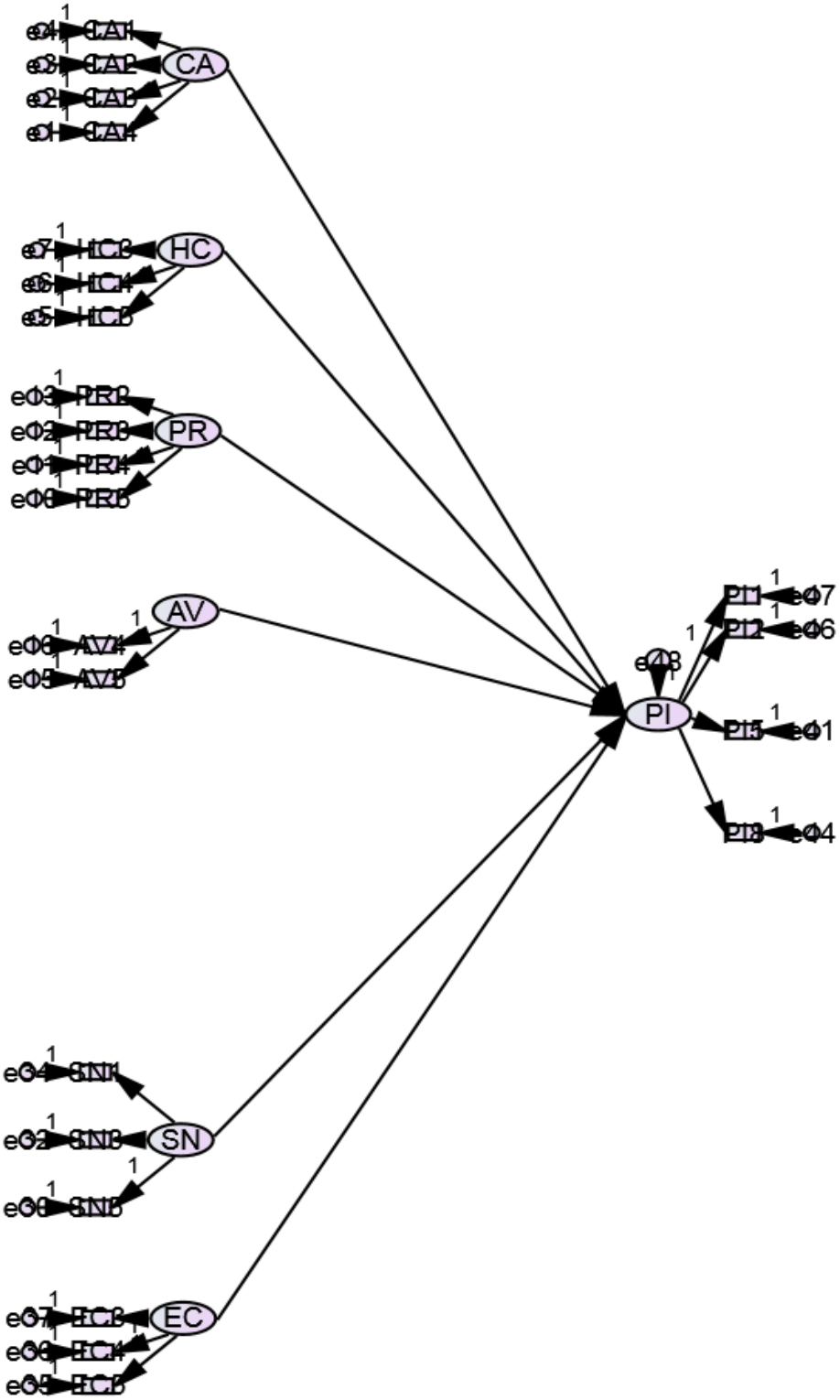
$\Sigma\varepsilon_i$ **=** $[(1-0.646^2) + (1-0.718^2) + (1-0.530^2) + (1-0.694^2) + (1-0.584^2) + (1-0.657^2)]$ = 3.531919

AVE = 2.468081/(2.468081 + 3.531919)

= **0.411**

APPENDIX III




CA
HC
PR
AV
SN
EC
PI

Research Office

APPENDIX IV: ETHICS CLEARANCE CERTIFICATE

HUMAN RESEARCH ETHICS COMMITTEE (NON-MEDICAL)
R14/49 Mhlope

CLEARANCE CERTIFICATE	**PROTOCOL NUMBER H14/08/13**
PROJECT TITLE	Antecedents of consumer purchase intentions towards organic food produces: A case study of the Johannesburg Municipality
INVESTIGATOR(S)	Mr B Mhlope
SCHOOL/DEPARTMENT	Economic & Business Science
DATE CONSIDERED	22 August 2014
DECISION OF THE COMMITTEE	Approved Unconditionally
EXPIRY DATE	24/09/2016

DATE 25/09/2014 **CHAIRPERSON** E.M. Taher
pp (Professor T Milani)

cc: Supervisor : Prof R Chinomona

DECLARATION OF INVESTIGATOR(S)

To be completed in duplicate and **ONE COPY** returned to the Secretary at Room 10000, 10th Floor, Senate House, University.

I/We fully understand the conditions under which I am/we are authorized to carry out the abovementioned research and I/we guarantee to ensure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I/we undertake to resubmit the protocol to the Committee. **I agree to completion of a yearly progress report.**

_____ ____/____/____
Signature **Date**

APPENDIX V: SURVEY QUESTIONNAIRE

October 2014

Good day,

My name is Bongani Mhlophe and I am currently completing my Masters in Marketing at the University of the Witwatersrand, Johannesburg.

My current research is entitled "*Antecedents of consumer purchase intentions towards organic food produces: A case study of the Johannesburg Municipality*". Through my research, I aim to explore the core factors that motivate consumers to buy organic food.

I am inviting you to be a participant in my current research study. Your selection into this research was based on the fact that you are a consumer in the Johannesburg area. By being a participant in this research study I would request that you **honestly** fill in the survey questionnaire for my study. It will take approximately 10-15 minutes to complete this survey.

Your participation in this research is voluntary and I can guarantee that your personal details will remain anonymous throughout this research study as well as in the final research dissertation. You as the participant may refuse to answer any questions which you feel uncomfortable with and you must also feel free to withdraw from this study at any time. By being a participant in this research you will not receive payment of any form and the information you disclose will be used in the research report. However, you will receive a Wits branded pen, as a token of appreciation for your time and responses. This research will be written into a Masters Dissertation and will be available through the University's website. Should you require a summary of the research, I can make this available to you.

Should you have any further questions or queries you are welcome to contact myself or my Supervisor, Prof Chinomona at any time at contact details provided below.

Researcher

Mr Bongani Mhlophe

466524@students.wits.ac.za

Tel.: 083 3487 680

Supervisor

Prof Richard Chinomona

Richard.Chinomona@wits.ac.za

Tel.: 071 0247 488

Consent Form for Participation in a Research Study

I acknowledge that I understand the research and that the research has been fully explained to me. I also understand that the information which I give to the researcher will be used in the research report.

I further acknowledge that the researcher has promised me the following:

- That my participation in this research is voluntary
- That my personal details will remain anonymous throughout the research study as well as in the research dissertation
- That I can refuse to answer any questions which I feel uncomfortable with

I hereby consent to being a participant for the research study *"Antecedents of consumer purchase intentions towards organic food produces: A case study of the Johannesburg Municipality"*

Signature ☐ **(Please Sign with an X)**

Date Signed _____

The following questions pertain to your personal information. Place a cross (X) in the block that best corresponds to your answer.

Gender:

F	❑	M	❑

Age:

- ❑ Less than 18
- ❑ 18- 25
- ❑ 26- 35
- ❑ 36- 45
- ❑ 46- 55
- ❑ 56- 65
- ❑ 66 and more

Marital Status:

- ❑ Married
- ❑ Cohabitation
- ❑ Single/Divorced/Widowed
- ❑ Other

Which ethnicity do you identify most strongly with?

Afrikaans	❑	Tsonga	❑
English	❑	Tswana	❑
Ndebele	❑	Venda	❑
Northern Sotho	❑	Xhosa	❑
Southern Sotho	❑	Zulu	❑
Sotho (Lesotho)	❑	Swazi	❑
Other (Please Specify) _____			

Level of Education:

- ❑ No Education
- ❑ Primary school
- ❑ Apprenticeship
- ❑ Secondary with Matric
- ❑ Higher post-secondary schools
- ❑ University

Number of Children:

- ❑ 0
- ❑ 1
- ❑ 2 or more

Family monthly income:

- ❑ Less than R10 000
- ❑ R11 000 - R20 000
- ❑ R21 000 - R30 000
- ❑ R31 000 - R40 000
- ❑ Unemployed
- ❑ R41 000 - R50 000
- ❑ More than R50 000

Employment Status

- ❑ Retired
- ❑ Full-time
- ❑ Part time

The following questions pertain to your understanding of organic food. Please read and answer the question below and indicate your level of agreement with the following statements. Place a cross (X) in the block that best corresponds to your answer from "Strongly Disagree" to "Strongly Agree".

Question: How would you describe organic food?

	Strongly Disagree [1]	**Disagree [2]**	**Neutral [3]**	**Agree [4]**	**Strongly Agree [5]**
Healthy	❑	❑	❑	❑	❑
High nutritional value	❑	❑	❑	❑	❑
Products grown in harmony with nature	❑	❑	❑	❑	❑
Free from chemical pesticides and fertilisers	❑	❑	❑	❑	❑
Produced with environmentally/animal friendly techniques	❑	❑	❑	❑	❑
Free from Genetically Modified Organisms (GMO)	❑	❑	❑	❑	❑
All products coming from organic agriculture are certified	❑	❑	❑	❑	❑

The following questions will help me find out more about your understanding about the issue at hand. Please rate to what extent you agree with the following statements. Mark your answer by placing a cross (X) in the corresponding block on the scale from "Strongly Disagree" to "Strongly Agree"

	Strongly Disagree [1]	**Disagree [2]**	**Neutral [3]**	**Agree [4]**	**Strongly Agree [5]**
Consumer Attitudes					
I think it is reasonable for me to intend to buy organic food	❑	❑	❑	❑	❑
I am motivated to purchase organic food because of its benefits	❑	❑	❑	❑	❑
I believe it is better for me to intend to buy organic than conventional food	❑	❑	❑	❑	❑
I intend to buy organic food because of its positive image to me	❑	❑	❑	❑	❑
Health Consciousness					
My health is very important to me	❑	❑	❑	❑	❑
Conventional foods are as healthy as organic foods	❑	❑	❑	❑	❑
Organic foods are natural and therefore better for my health	❑	❑	❑	❑	❑
Organic foods are healthier because they have no/less growth hormones additives and antibiotics	❑	❑	❑	❑	❑
Organic foods are healthier because they have no/less chemical residues	❑	❑	❑	❑	❑
Perceived Price					
The price of organic food is important to me	❑	❑	❑	❑	❑
I often refrain from intending to buy organic food because I think it is expensive	❑	❑	❑	❑	❑
It is important for me that organic food is priced the same as conventional food	❑	❑	❑	❑	❑
I always try to find the most reasonable lowly priced foodstuffs where I shop	❑	❑	❑	❑	❑
I intend to buy organic food if they are sold at more cheaper prices	❑	❑	❑	❑	❑

	Strongly Disagree [1]	Disagree [2]	Neutral [3]	Agree [4]	Strongly Agree [5]
Perceived Availability					
Organic food is sufficiently available at the store where I shop	❑	❑	❑	❑	❑
Organic food is hard to find in a store where I purchase	❑	❑	❑	❑	❑
I can easily find organic food in my neighbourhood	❑	❑	❑	❑	❑
I would consider purchasing organic food if it is available at the place where I purchase food produces	❑	❑	❑	❑	❑
I intend to buy organic food if they are more accessible in the market	❑	❑	❑	❑	❑
Labelling					
Labels are a way of distinguishing between organic and conventional foods	❑	❑	❑	❑	❑
I am able to recognize an organic food label	❑	❑	❑	❑	❑
I have more trust in organic food that has a familiar label	❑	❑	❑	❑	❑
I can tell if the label is genuine or not	❑	❑	❑	❑	❑
I have no idea about organic food labels	❑	❑	❑	❑	❑
Knowledge Levels					
I have good knowledge about organic food	❑	❑	❑	❑	❑
It is difficult for me to know if the produce is organically produced	❑	❑	❑	❑	❑
I know that organic food tastes better than conventional food	❑	❑	❑	❑	❑
I know that organic food is fresher than conventional food	❑	❑	❑	❑	❑
I know that organic agriculture supports the growth of small local farmers	❑	❑	❑	❑	❑

	Strongly Disagree [1]	Disagree [2]	Neutral [3]	Agree [4]	Strongly Agree [5]
Subjective Norms					
People that are important to me would like me to consider buying organic food	❑	❑	❑	❑	❑
Most people who influence what I do, think that I should not intend to buy organic food	❑	❑	❑	❑	❑
It is good for me to consider buying organic food	❑	❑	❑	❑	❑
I think it is not important to consider buying organic food	❑	❑	❑	❑	❑
My family would me to have organic food purchasing plans	❑	❑	❑	❑	❑
Environmental Concerns					
The environment should be protected through environmentally friendly farming methods	❑	❑	❑	❑	❑
The production of *conventional* food does not harm the environment	❑	❑	❑	❑	❑
Organic food production is better for the environment because it uses no/less chemical residues	❑	❑	❑	❑	❑
Organic food production is better for the environment because it uses no/less growth hormones	❑	❑	❑	❑	❑
Organic food production practices are better for the environment than conventional farming methods	❑	❑	❑	❑	❑
Purchase Intentions					
My attitudes are linked to my intention to buy organic food	❑	❑	❑	❑	❑
My intention to buy organic food in me comes from health reasons	❑	❑	❑	❑	❑
My intention to buy organic food is linked to price of such foods	❑	❑	❑	❑	❑
My intention to buy organic food can develop with level its availability	❑	❑	❑	❑	❑

	Strongly Disagree [1]	Disagree [2]	Neutral [3]	Agree [4]	Strongly Agree [5]
I intend to buy produces with an organic food label	❑	❑	❑	❑	❑
My intention to buy organic food can increase with more knowledge I may have about such foods	❑	❑	❑	❑	❑
Intention to buy organic food in me comes from the influence I get from others	❑	❑	❑	❑	❑
My concerns about the environment improves my intention to buy organic food	❑	❑	❑	❑	❑

General Information

The following questions will help me to find out more about your intentions to buy organic goods. Indicate how much you agree or disagree with a statement by placing a cross (x) in the block corresponding to your answer. Please answer the first two questions on the scale ranging from "never" to "always". For third question indicate your answer on the scale ranging from 0% to 100%.

	Never [1]	[2]	Neutral [3]	[4]	Always [5]
How often do you intend to purchase organic food for your household?	❑	❑	❑	❑	❑
When you buy food how often do you consider purchasing organic food?	❑	❑	❑	❑	❑
When you buy food, what % of organic food do you intend to purchase?	❑ 0%	❑ 25%	❑ 50%	❑ 75%	❑ 100%

The following are general questions about your most preferred retail outlet that sells organic food. Please place a cross (X) in ONE the blocks that best corresponds to your answer.

Which amongst the following is your **most preferred** organic food retail outlet?

❑ Woolworths

❑ Pick 'n Pay

❑ Shoprite/Checkers

❑ Spar

❑ Other _____ (Please Specify)

Thank you for giving up of your time in participating in this study. Your input is greatly appreciated and will be treated as confidential at all times.

*****END*****

KEEP CALM AND GO ORGANIC

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